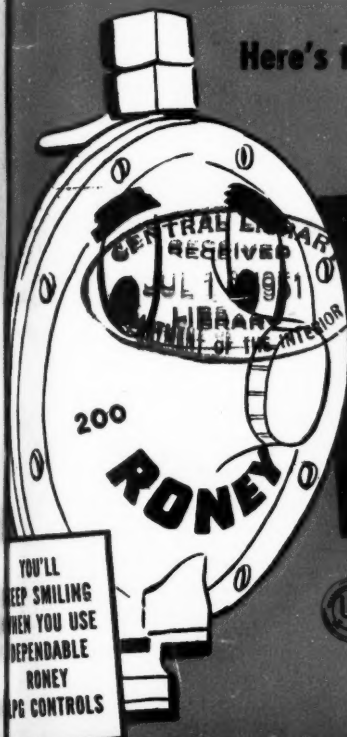


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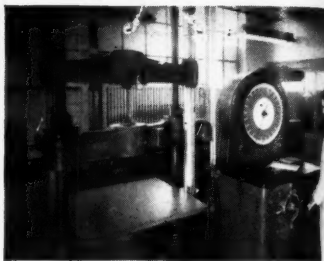
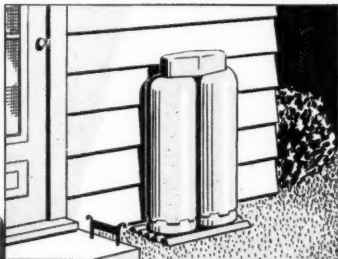


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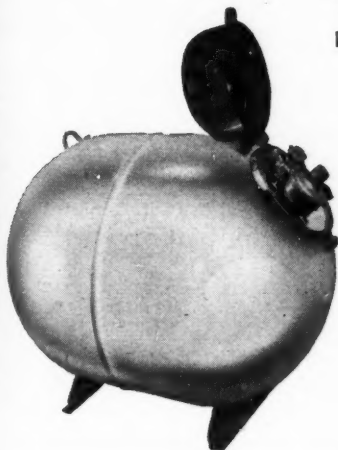
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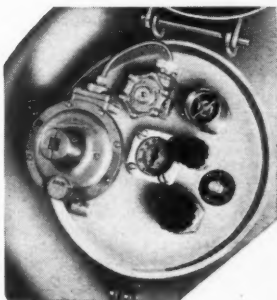
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Letters

Gentlemen:

We are in need of about 10,000 gal. additional storage. Due to present city ordinance we are not permitted to install one large tank but could install a multiple of 500-gal. tanks.

Please advise if a multiple of tanks is practicable, also any additional information you might offer.

O.C.L.

Missouri

A battery of 500-gal. tanks can be used to provide 10,000 gals. of bulk storage capacity. Such a system, however, will probably prove more expensive to install and also to operate than the single large tank. The tanks must be all fitted with liquid withdrawal connections and each tank provided with its own external shutoff valve.

The tanks may be manifolded together and the main transfer connections located at one safe, central point. Using a large number of small tanks multiplies the number of connections, valves, joints, etc., which may develop leaks; increases possible inventory errors and all the other chances for loss of fuel.—Ed.

Gentlemen:

In Division 4, Sec. 4.2C of the October, 1950, edition of Pamphlet 58, we find that ICC cylinders may be used as fuel containers for propane motor fuel. In converting six of our trucks to propane we would afford considerable savings by using 100-lb. ICC cylinders instead of the regular motor fuel tanks.

Would you advise us whether the 100-lb. ICC cylinders can be satisfactorily used for this purpose?

T. E. P.

Virginia

According to the NBFU Pamphlet 58, October, 1950, edition, 100-lb. ICC cylinders can be used. They may be satisfactory for use on your

trucks if they are, or can be, properly installed and fitted as set forth in Div. IV.

They must be installed in a manner whereby they will conform to all other requirements of Div. IV and particularly Section 4.3.

All the cylinder vapor and liquid withdrawal valves must be fitted with excess flow valves (4.4c). Also, some means must be provided to determine the liquid contents of the container so the driver will know how much fuel he has.

The ordinary type ICC, 100-lb. bottle must be used in an upright position. It can be specially fitted for use, however, in the horizontal position.

ICC 60- and 100-lb. propane containers have been used extensively in some sections of the country on tractors, but nearly all these applications are with vapor withdrawal for a relatively light load.—Ed.

Gentlemen:

We are an appliance and bottled gas dealer with approximately 200 bottled gas accounts. We do not use the meter system but we use the one or two tank system optional to the customer. We get a straight 10c or 11c per pound on each 100-pound cylinder. The only disadvantage is that the customer never knows when his cylinder is empty.

We would like to know if there is anything available in the industry on the gauge style that we could mount on the stove and it would indicate consumption of gas.

J. K.

Pennsylvania

We do not know of any gauge exactly like the one you describe. However, you can get automatic changeover units for two-tank sys-

• BUTANE-PROPANE News welcomes letters from our readers, but it must be understood that this magazine does not necessarily concur in opinions expressed by them.—Editor.

tems with a removable "service tank-reserve tank" use indicator which can be located inside the house.—Ed.

Gentlemen:

Could you give us any information as to what is the best compression ratio where propane is used in trucks, and also for tractors.

E. P. S.

Montana

It would not be possible to give one figure which would represent the best compression ratio for all trucks, nor for all tractors. It would not be the same for a large engine as for a small engine, and there is a wide variation in permissible compression ratios between the engines of one manufacturer and those of another. Compression ratios may be higher at high altitudes than in the lower areas, etc.

Generally speaking, it is possible to operate to advantage with LP-Gas at about one compression ratio higher than with gasoline, but there are exceptions in both directions.—Ed.

Gentlemen:

Please tell me the number of Btu for 40% propane, 60% butane mixture, and Btu for 100% butane and 100% propane. At the present time a customer is using this mixture and I hope to change him to 100% propane. Could you tell me how much his cost would increase?

Please tell me how you would compare the cost of operation of a kerosene furnace against one operating on propane. Kerosene sells for 13 cents, propane for 18 cents.

C.L.A.

South Carolina

The heating value of kerosene is about 135,000 Btu per gallon. Compared with propane, with a heating value of 91,300 Btu per gallon, kerosene has an even greater advantage on a straight heating value basis. It would require $135,000/91,300 = 1.48$ gallons of propane to replace a gallon of kerosene if all factors of efficiency, service, etc., were equal. Then the comparative cost of the two fuels would be 13 cents for kerosene to $(18 \times 1.48 =) 26.6$ cents per gallon for propane.

Next to consider is the relative efficiency of the two fuels, available temperature control, other services, and the possibility of a better LP-Gas price if the customer increases his

consumption. Gas floor furnaces may operate as much as 10% more efficiently than the kerosene unit.

Also, is the kerosene unit equipped with an automatic temperature control which holds the house temperature exact or is it manually controlled with alternately hot and cold temperature in the room? A gas furnace can be easily equipped and controlled with an automatic thermostat.

These thermostats can be furnished in models which maintain a uniform room temperature. In addition, they can be set at night to maintain a minimum temperature through the night and at a predetermined hour in the morning, it will raise the room or house temperature to normal. Such controls, if not on the kerosene furnace, will further reduce the fuel cost difference and should be a strong selling point from the standpoint of convenience, comfort, health, etc.

| | |
|---|---------|
| | Btu |
| Heating value of 100% propane/gal.... | 91,300 |
| Heating value of 100% N-butane/gal.... | 103,000 |
| Calculated heating value of 40% propane 60% butane mixture/gal..... | 98,300 |
| Based on a direct heating value ratio and the same price per gallon, the cost of 100% propane would be approximately 7% higher than the 40-60% mixture.—Ed. | |

Gentlemen:

We have built a test stand for testing regulators from plans that I believe are put out by one of the manufacturers. According to our information, this should have an orifice at the outlet that will pass 30 cu. ft. per hour. What we would like to know is, what drill size would we use to make such an orifice? We have consulted The Bottled Gas Manual, p. 122, and according to that table, it seems a 38 drill size would be right but we think it looks too large.

Also, what drill size would be used to drill an orifice to pass 50 cu. ft. and 100 cu. ft. per hour? Would it make any difference what kind of gas was used, propane, compressed air, or CO₂?

L.V.

Minnesota

The following table lists the various orifice sizes for four gases at flow rates of 30, 50, and 100 cu. ft. per hour. These orifice sizes are for use in standard range burner type orifices which have 15° to 30° beveled en-

Gas Used

Specific Gravity of Gas (air=1)

Standard Twist Drill Size For

| | |
|-----------------------|------|
| Propane | 1.52 |
| Butane | 2.00 |
| Air | 1.00 |
| CO ₂ | 1.53 |

| 30 cu. ft./hr. | 50 cu. ft./hr. | 100 cu. ft./hr. |
|----------------|----------------|-----------------|
| 37 | 29 | 12 |
| 34 | 27 | 7 |
| 42 | 31 | 18 |
| 37 | 29 | 12 |

trances to the orifice. Gas pressure entering is 11-in. water column and discharge is to the air.

CO₂ and propane have the same specific gravity and therefore require the same drill size orifice. CO₂ will also act in a similar manner to propane while passing through the regulator and therefore is a good substitute for propane when testing the regulator—Ed.

Gentlemen:

I have a suggestion which might be helpful to your correspondent who signed himself "G.E.M." on p. 24-25, of the February issue. He uses steam from the main boiler to dry whey.

It occurs to me that it may be practical for him to use a separate boiler in a closed system. Since condensate would be returned to the boiler, make-up water would be kept to a minimum and, therefore, it would be possible to: (1) Soften the initial filling of water and subsequent make-up; (2) Buy soft water for initial charge and subsequent make-up; (3) Use cistern water.

In such a system, rust inhibitors such as borax or commercial inhibitors would be of additional benefit at low cost.

This scheme would probably cost much less than installing a complete air dry system.

Harry R. Zeigler

Oklahoma

Thanks for this helpful suggestion. Similar comments from our readers about any problems presented in this department will be welcome.—Ed.

Gentlemen:

We have out a 1000-gal. propane tank which has accumulated an estimated 30 gallons of dead ends in the

bottom. This tank was used one season for heating on a heavy withdrawal without a vaporizer. About 10,000 gallons were used.

Please advise if it is normal for dead ends to accumulate and if use without a vaporizer in this instance had any effect or if it is due to poor quality propane.

J.W.T.

North Dakota

Since you state you vaporized about 10,000 gals. of propane through the 1000-gal. tank, the 30 gals. of dead ends represent only about .3 of 1% which does not seem excessive.

These dead ends may be comprised of some pentanes, odorants, oil or glycerine from pumps or compressors (both your own and those at the refinery) and perhaps some other minor sources. We do not think that it can be considered poor quality fuel.—Ed.

Gentlemen:

In the writer's capacity as sales engineer on tubular heat exchange equipment, we are frequently called upon to design suitable equipment for vaporizing propane and butane.

Any references you might be able to furnish on technical data source material for the subject liquids would be much appreciated.

R.H.P.

New York

We refer you to technical data and illustrations appearing in the Handbook Butane-Propane Gases, published by us.

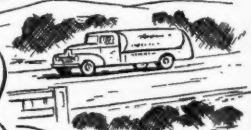
The National Board of Fire Underwriters Pamphlet 58, for code requirements, is available free of charge from that organization at 85 John St., New York City.

We also wish to call your attention to the probable necessity of providing a special device for preventing liquid from passing over into the vapor lines in case of heat source failure of any vaporizer used.—Ed.



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LP-GAS SALES SECTION

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Comment

SOMETHING over two years ago the LPGA instigated a plan to establish short-course service schools in strategic centers over the country to enable dealers and their employees to engage in brief, technical reviews of industry practices covering installation and servicing of equipment and appliances. The principal objectives were to spread information that would lead to greater safety and improved operational practices.

The idea caught on instantly and as session after session was held, it became a problem to provide facilities for all who wished to attend.

The courses, lasting less than a week, offered quick coverage of vital facts which those attending could capitalize upon immediately in their work. Registration fees have usually been not over \$10 and living accommodations provided at extremely low prices.

The overall result has been a wide dissemination of basic rules for safer and better practices to refresh the knowledge of experienced men and provide rudimentary facts for the newcomers.

It is notable that since these service schools were established, the safety record of the industry has improved. It is not extending too much credit to say they have had a direct bearing upon this condition.

Special credit for the success of these short courses goes to Ken Wolfe, chairman of the educational committee of the LPGA, though he has had able assistance all down the line from other members of the com-

mittee and industry men in the various districts.

There are now established eight regional service schools which hold annual short courses, all conducted under the auspices of universities, in Berkeley, Calif.; Denver, Colo.; Ames, Iowa; Lawrence, Kan.; Lafayette, Ind.; Atlanta, Ga.; Baton Rouge, La.; and Bridgeport, Conn.

In addition, there is an engine fuel service school at Manhattan, Kan.

Another important service school is that conducted by the University of Minnesota at its Farm School branch, held every spring in St. Paul, in cooperation with the National Butane-Propane Assn., the Minnesota Petroleum Gas Assn., and the LPGA.

Other universities and colleges have conducted similar courses, all contributing substantially to the upbuilding of the I.P.-Gas industry.

Fuel supply problems are receiving considerable attention by several agencies of the government which are coordinating their efforts in defense mobilization.

The Interior Department has urged that Government consumers, industry, and the public cooperate in a nation-wide campaign for summer purchases of all types of fuels in order to relieve the winter pressure upon transportation facilities.

Backing the program are the Defense Solid Fuels Administration, the Defense Transportation Administration, the Association of American

Railroads, railroad companies, fuel producers in all categories, and state and city authorities.

The Interior Department pointed to last year's spot shortages as an example of what can happen when last minute fuel buying, the defense program, and the nation's normal shipping combine to tax the carrier system beyond reason.

Producers and distributors can help the situation materially by conducting campaigns to inform the public of the benefits derived from, and the vital necessity for, summer buying.

This issue sees the close of the valuable series of articles on servicing thermostats in the field by M. B. Gault, of Robertshaw-Fulton Controls Co., which started in March. This is the kind of material that servicemen will always want to carry with them when making service calls.

Another important semi-technical series begins this month. It covers the numerous problems of fuel transfer and is authored by Lawrence Smith, of Smith Precision Products Co.

The attention of readers is directed particularly to these two series.

Never has a "convention season" produced more papers important to the LP-Gas industry than this past spring.

Of primary interest was the special LP-Gas session of the mid-year meeting of the American Petroleum

Institute at which half-a-dozen speakers discussed matters of current, vital interest. Abstracts of many of these appear in this issue of BUTANE-PROPANE News, as do others delivered at the meetings of the Natural Gasoline Assn. of America and the Liquefied Petroleum Gas Assn.

State and district meetings also produced fruitful material and it is regretted that lack of space prevents publishing all of them in full.

One bulk plant operator recently assured us that he had a tough problem in pumping in which he needed the technical help of BUTANE-PROPANE News. "This is the sixth 'tough one' you've helped me with," he concluded. "I know you won't let me down."

Since it was established in the second issue of this magazine, back in July of 1939, the Letters department has grown to the point where it now answers on an average of 80 questions a month (nearly 1000 per year) ranging from the elementary "quickie" to the technically confounding.

The editors of BUTANE-PROPANE News appreciate the opportunity to be of help. It is one of our best methods of communication—and it is one in which we have the pleasure of direct contact with old friends and new.

By Ed.





BEYOND THE MAINS

THE industry-wide trend toward thinking of future expansion in terms of LP-Gas production, distribution and storage has recently been given considerable impetus. Major portions of recent LP-Gas and petroleum industry conventions have been devoted to discussions of the three vital subjects.

Reports of economical and successful storage of liquefied petroleum gases in salt domes and other underground facilities are engrossing. The producer has emphasized the fact that his main problem is not one of production—he could easily produce twice the amount of LP-Gas currently being consumed. The big question is "How can peak demands be met without tremendous and unprofitable investments being made for costly above-ground storage?"

According to leaders in both distributor and producer phases of the industry, there are several answers to the question—but none of these is conclusive in itself.

Underground storage is a big step in the right direction—but it is generally confined to areas near the producing plant. It takes the enormous peak-season load off production facilities but does not solve the problem of distribution to the bulk plant in times of critical demand.

The purchase of expensive rail cars to meet unwieldy 2-1-or-worse seasonal peaks would help solve the problem, but the financial outlay would necessitate high consumer premiums being paid for demand shipments. As we are largely dependent upon competitively favorable price levels, premiums are generally regarded with disfavor.

Increased storage facilities for bulk plant operators, community dealers, and the customer, would result in heavier off-peak deliveries and proportionately lighter demands upon peak season delivery equipment. It would help eliminate the necessity for twice as many rail cars, trucks and barges for volume fuel delivery as is normally required. As has been suggested in the preceding paragraph, this results in doubling expenditures for equipment which then, uneconomically, stands idle the balance of the year.

Increased storage facilities means the same thing to the dealer that additional carriers mean to the producer—investment in equipment which does not operate at full, productive capacity during most of the year.

Accomplishing the same purpose as additional storage, but utilizing existing equipment to its fullest productive capacity, would be development of the off-peak load to a seasonal ratio of 1:1. It may be accomplished through

selling the farm, commercial, power, dehydration, weed burning and flame cultivation markets.

In order to keep prices down, avoid high premiums, and operate with a minimum of expense for non-productive seasonal storage, our industry is concluding that it will either have to balance the load or pay the piper.

FARMERS are more likely to lay "all the cash on the barrel head" when buying automobiles, than are non-farm buyers of cars. This fact has been determined by an analysis developed and financed by "Capper's Farmer" magazine, and is of prime interest to LP-Gas dealers. The analysis was made by the Survey Research Center of the University of Michigan, and was based upon data obtained for the 1950 Survey of Consumer Finances, of the Federal Reserve Board. Details are:

"Personal interviews were conducted throughout the United States, distributed so as to be representative of the nation as a whole; 108 farm buyers and 710 non-farm buyers of autos were interviewed. It was found that 72% of the farm buyers paid full cash, whereas only 41% of the buyers in 12 largest metropolitan areas and 55% of the buyers in other cities of 50,000 or more population paid full cash at the time of purchase.

"In the purchase of other durable goods (refrigerators, washing machines, vacuum cleaners, radios, etc.) the farmer also shows a greater tendency toward full cash payment than is true of the non-farm buyer. Personal interviews with 174 farm buyers and 1232 non-farm buyers of durable goods showed that 66% of the farm buyers paid full cash; only 47% of the buyers in the 12 largest metropolitan areas and 38% of the buyers in other cities of 50,000 or

more population paid full cash at the time of purchase.

"These unusual cash buying habits of farmers are particularly significant today. They not only reflect the strong financial position of the farm population, but indicate that credit curbs under Regulation W will restrict farm trade in durable goods much less than they will restrict trade in durable goods among non-farm buyers."

Every time you lose a customer to the electric industry it costs you an average annually of \$32 in gross profit and an average of \$20 in annual net profit before taxes and overhead, providing the customer is using gas to cook and heat water. If the customer is using LP-Gas for all four jobs: cooking, water heating, refrigeration, and heating—annual gross profit loss is \$145; annual net profit loss is \$72 before taxes and overhead. —Lee Brand.

A wail about how many heating systems are in bad condition was heard at an engineers' meeting from the spokesman for a competing fuel. His thought was that salesmen for this fuel, by finding these defects, could sell new equipment.

Better still, throw out the old stuff and put in LP-Gas heating!

It seems only one residential heating system in 10 is in good condition; more than two out of three need cleaning; more than three out of seven have chimneys or smoke pipe that need attention or replacement.

Out of 100 jobs cleaned, 40 or more needed new smoke pipe; six to 20 needed new grates; eight needed new firepots; 10 to 20 needed recementing.

Too bad they didn't put in LP-Gas, the easily controlled, efficient, trouble-free, clean fuel in the first place!

Transferring LP-Gas With Liquid Pumps

By LAWRENCE W. SMITH

Smith Precision Products Co.,
South Pasadena, California

INTRODUCTION

THE PUMPING OF LIQUEFIED petroleum gas with a liquid pump is a subject of great interest, since butane and propane are liquids being handled at their boiling points. As boiling liquids, they are quite different in their behavior from ordinary liquids such as water, oil, kerosene, gasoline, or diesel fuel, and must be handled with special consideration of these differences.

It is not difficult to create a good piping installation for working with these liquids when the special problems that exist are understood. While we would be the first to point out that the transfer of LP-Gas is something which no one yet understands perfectly, we have found much which is both helpful and essential to the successful handling of these liquids.

It is the purpose of this and the two succeeding articles to present the practical part of the theory behind LPG pumping to the general distributor or dealer, so that he may understand and apply this knowledge to his own plant.

In 3 Parts—Part 1

THE PUMP INLET LINE

ON the average, 1 pound of butane or propane liquid will occupy 55 cubic inches of volume, about a quarter of a gallon. However, 1 pound of butane or propane vapor will occupy anywhere from 5 to 50 gallons of volume, depending upon the pressure in the system. Since the capacity of a pump is based upon its volume displacement, while its actual delivery is dependent upon the weight moved from one tank to another, it is important to keep volume-consuming vapor out of the inlet line, in order that liquid may be moved as fast and efficiently as possible.

Pumps are designed to move liquid, not vapor. They will not do a good job on gas. If very much vapor gets to the pump, it will cause the pump to become either completely vapor locked, and not move liquid at all, or partially vapor locked, and pump very slowly. This latter condition is called pump starvation. Very little liquid is moved, because most of



LAWRENCE SMITH

the capacity of the pump is taken up by vapor instead of liquid. We must do everything we can to keep vapor out of the pump.

There are two ways vapor can get into the inlet line and into the pump. (1) Since LP-Gas boils or vaporizes even at very low temperatures when open to the air, it is kept in liquid form only by being stored in a closed tank under pressure. If anything happens to reduce this pressure suddenly, the liquid will boil in an attempt to bring the pressure back up to its original value. (2) Any heat which is added to the liquid after it leaves the storage tank may cause it to boil and form vapor.

(1) Vapor Formed in Inlet Line Due to Reduction of Pressure.

In order that we may understand the effect of pressure reduction in creating vapor in the pump inlet line, let us consider a common piping hook-up as shown in Figure I. Before the pump is started, we have a pressure in the tank that we will call P_t , and a pressure in the pump that we will call P_p . Now P_p is greater than P_t by the amount h , which is the height

of the liquid level in the tank above the pump inlet. (Pressure h is the downward force caused by the weight of the liquid in the piping between the tank and the pump.) We can write the formula $P_p = P_t + h$. Now, when the pump is running, P_p must *stay* greater than, or at least equal to, P_t , or we will have that sudden reduction in pressure that will make the liquid boil and form vapor.

Must Use Some Pressure

But some pressure must be used to bring the liquid from the tank to the pump inlet. So if P_t and P_p must be at least equal, we have only h left to do the moving job. Pumps should not have to suck LP-Gas to their inlets. If they try to do this, P_p gets to be a lower value than P_t , we have pressure reduction, and the liquid starts to boil. Therefore, h must be made great enough to overcome the "resistance-to-flow" of all the piping, valves, and fittings in the inlet line, and bring a flow of liquid equal to the pump's capacity to the pump. So here is the first rule:

h must be greater than or equal to the resistance-to-flow of all valves, pipes, and fittings in the LP-Gas pump inlet line.

In the worst possible case, where the storage tank is almost empty, h is the height of the bottom of the tank above the pump inlet. To know what the value of h should be, it is only necessary to add up the total resistance-to-flow of the piping, valves and fittings. Table I is the first of a series of

TABLE 1. RESISTANCE-TO-FLOW OF PIPE (FOR LIQUID BUTANE, PROPANE, AND MIXTURES ONLY, EXPRESSED IN FEET OF HEAD, H).

| Gallons per Minute Flow Rate | Resistance of One-Foot Lengths of Pipe | | | |
|------------------------------|--|---------|----------|---------|
| | 1½" Size | 2" Size | 2½" Size | 3" Size |
| 10 GPM | .007 | - | - | - |
| 20 GPM | .028 | .008 | - | - |
| 30 GPM | .060 | .017 | .007 | - |
| 40 GPM | .111 | .031 | .012 | .004 |
| 50 GPM | .174 | .048 | .020 | .006 |
| 60 GPM | .250 | .070 | .028 | .009 |
| 70 GPM | - | .095 | .038 | .013 |
| 80 GPM | - | .123 | .050 | .017 |
| 90 GPM | - | .156 | .063 | .021 |
| 100 GPM | - | .193 | .078 | .026 |

three original tables which make it easy to do this.

The resistance-to-flow of pipe varies with the pipe size and fluid flow in gallons per minute. Table I presents the various values of resistance of 1-foot lengths of pipe, expressed in *feet of head (h)* of liquid butane or propane. For example, at 50 gallons per minute, you need an "h" of .048 feet to overcome the resistance of a 1-foot length of 2" pipe.

Note how fast the resistance of

pipe increases as flow rate increases. For example, if the 2" pipe carries twice the flow rate, or 100 gpm, the resistance is .193 feet, more than four times the original figure of .048. A 3-inch pipe carrying 50 gpm has less than 20% of the resistance of the same pipe carrying 100 gpm.

Table 2 presents data on the resistance-to-flow of the most commonly used valves and fittings. The values shown are listed in equivalent lengths of pipe. For example,

**TABLE 2. RESISTANCE OF VALVES AND FITTINGS
(EXPRESSED IN FEET OF PIPE)**

| Valves and Fittings | Size of Pipe Inlet Line | | | |
|--|-------------------------|----|-----|-----|
| | 1½" | 2" | 2½" | 3" |
| 3" x 2" excess-flow valve (Rego #2139). | 18 | 63 | 158 | 480 |
| Globe valve, wide open. | 40 | 50 | 60 | 80 |
| Angle valve, wide open. | 20 | 25 | 30 | 40 |
| Plug valve, wide open | 5 | 6 | 8 | 10 |
| Gate valve, wide open | 1 | 1 | 1½ | 1½ |
| Swing check valve | 5 | 6 | 8 | 10 |
| Elbow, 90°. | 4 | 5 | 6 | 8 |
| Elbow, 45°. | 2 | 2½ | 3 | 3½ |
| Tee, flow through side outlet . | 8 | 10 | 13 | 16 |
| Tee, flow straight through. . . | 2½ | 3 | 4 | 5 |
| Strainer*, same size as pipe . . | 25 | 60 | 42 | 42 |
| Strainer*, next larger size than pipe. | 16 | 17 | 14 | 20 |
| Bushing | 2 | 2½ | 3 | 4 |

* Sarco Strainer. Most other makes have more resistance.

we see from studying the table that the resistance of a 2" angle valve is the same as the resistance of 25 1-foot lengths of 2" pipe.

To obtain a value for the total resistance-to-flow in your inlet line, list all the fittings and valves and add up their equivalent lengths. Then add to this the actual length of pipe in the line. Multiply the total by the proper value taken from Table I.

As an example, let us take Figure II as a drawing of a standard pump inlet line. The drawing shows the parts in cross-section, and all parts are drawn to scale. There is one No. 2139 Rego excess-flow valve, one 3" globe valve, one 3" 90° elbow, one 3" strainer, and about 1 foot of 3" pipe as represented by the sum of the lengths of four 3" x close nipples. Assuming that the pump is rated at 50 gallons per minute, the resistance-to-flow of the inlet line is calculated as follows:

**Equivalent
Length**

| | |
|--|---------|
| From table 2, the equivalent length of the No. 2139 excess-flow valve is | 480 ft. |
| This value for 3" globe valve | 80 ft. |
| Value for 3" elbow..... | 8 ft. |
| Value for 3" strainer..... | 42 ft. |
| Total | 610 ft. |
| Add 1 foot length of pipe.. | 1 ft. |
| Total | 611 ft. |

Thus the total equivalent length of this system is 611 feet of 3" pipe. From Table I, 1 foot of 3" pipe carrying 50 gallons per minute of liquid has a resistance-to-flow of .006 feet. Therefore, the resistance of this inlet line in Fig-

ure II is $611 \times .006 = 3.666$ feet. In other words, when pumping 50 gallons per minute from one tank to another through 3" piping, the bottom of the storage tank must be about 3 feet, 8 inches above the pump inlet if vapor formation in the inlet line is to be completely prevented.

Now let us see how high the tank should be mounted if we use 2" pipe, valves, fittings, etc., instead of the 3" size. In such a case, we have, from Table 2:

**Equivalent
Length**

| | |
|-------------------------|---------|
| Excess-flow valve | 63 ft. |
| 2" Globe valve | 50 ft. |
| 2" elbow | 5 ft. |
| 2" strainer | 60 ft. |
| Total | 178 ft. |
| 1 foot 2" pipe | 1 ft. |
| Total | 179 ft. |

Again, from Table I, 1 foot of 2" pipe carrying 50 gallons per minute has a resistance-to-flow of .048 feet. The total resistance of a 2" inlet line is therefore $179 \times .048 = 8.59$ feet.

We all know that a 2" inlet line is in common use with 50 gpm pumps. We also know that bulk plant tanks are seldom mounted 8 or 9 feet off the ground. The conclusion is that in almost every LP-Gas pumping installation in use today, some vapor forms in the pump inlet line. In every case, the delivery of the pump is reduced below what it would be under ideal conditions.

Table 3 has been prepared to show the effect of the vapor formation in the inlet line upon pump

TABLE 3. PERCENTAGE REDUCTION IN LPG PUMP CAPACITY
WHEN THE STORAGE TANK IS NOT MOUNTED HIGH ENOUGH.

| Liquid and Temperature | Difference between the height the tank should be mounted, and the height it is mounted, in feet | | | | | | | | | | | |
|------------------------------|--|------|------|------|------|------|------|------|------|------|------|------|
| | 1' | 2' | 3' | 4' | 5' | 6' | 7' | 8' | 9' | 10' | 11' | 12' |
| Propane, 100° F. | 0.7 | 1.4 | 2.0 | 2.7 | 3.3 | 4.0 | 5.6 | 5.2 | 5.8 | 6.5 | 7.1 | 7.6 |
| Propane, 70° F. | 1.4 | 2.8 | 4.1 | 5.4 | 6.6 | 7.9 | 9.0 | 10.2 | 11.4 | 12.4 | 13.5 | 14.6 |
| Propane, 40° F. | 3.0 | 5.9 | 8.9 | 11.1 | 13.6 | 15.8 | 18.0 | 20.1 | 22.0 | 23.9 | 25.7 | 27.3 |
| Propane, 10° F. | 6.9 | 12.9 | 17.9 | 22.0 | 27.1 | 30.8 | 34.2 | 37.3 | 40.2 | 43.5 | 45.1 | 47.2 |
| Propane -20° F. | 16.3 | 28.0 | 36.8 | 43.7 | 49.3 | 53.9 | 57.6 | 60.8 | 63.7 | 66.1 | 68.1 | 70.0 |
| Butene, 100° F. | 7.4 | 13.7 | 19.3 | 24.1 | 28.5 | 32.3 | 35.7 | 38.9 | 41.7 | 44.3 | 46.7 | 48.8 |
| Butane, 70° F. | 15.3 | 26.5 | 35.1 | 41.8 | 47.3 | 51.9 | 55.8 | 59.0 | 61.8 | 64.2 | 66.3 | 68.3 |
| Butane, 40° F. | 30.9 | 48.3 | 58.4 | 65.3 | 70.2 | 73.8 | 76.7 | 79.1 | 80.8 | 82.6 | 83.8 | 84.9 |

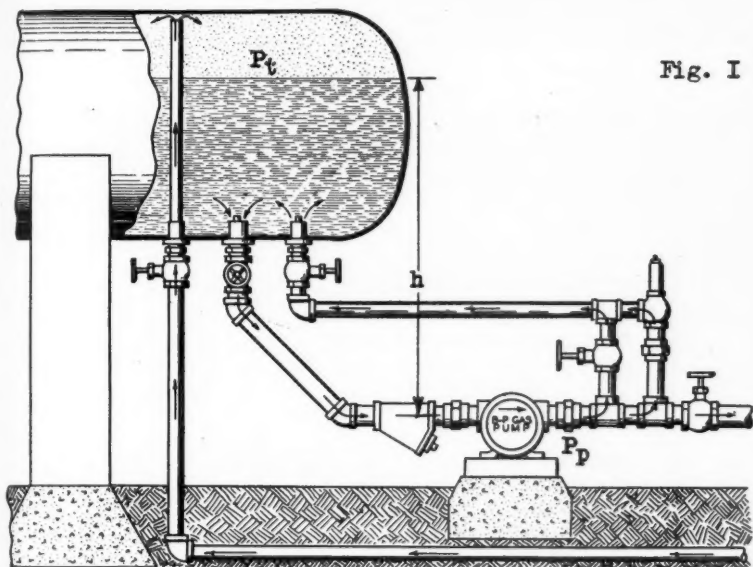


Fig. I

$$P_p = P_t + h$$

capacity. It lists the percentage reduction in pump capacity when the storage tank is not mounted high enough.

We have seen an example of a case where for best pump efficiency, the tank *should* be mounted almost 9 feet above the pump inlet. Let us suppose it is actually mounted only 4 feet above the pump inlet. The difference between the 9 feet and the 4 feet is 5 feet. Entering Table 3 in the 5 ft. column, we see that if we are pumping *propane* at a temperature of 70° F, the pump capacity will be reduced only 6.6%. This means

that about 46 gallons of liquid will still flow to the pump inlet every minute.

Now, in the winter months in the same system, with the temperature down to 10° F, pump capacity will be reduced 27.1%. Thus only 36 gallons will flow to the pump every minute. If we are handling *butane* at 70° F, with the same system, pump capacity will be reduced 47.3%, to 27 gallons per minute. And at lower temperatures, capacity in such a system is reduced to the point where pumping *butane* is impractical.

This explains why many pump-

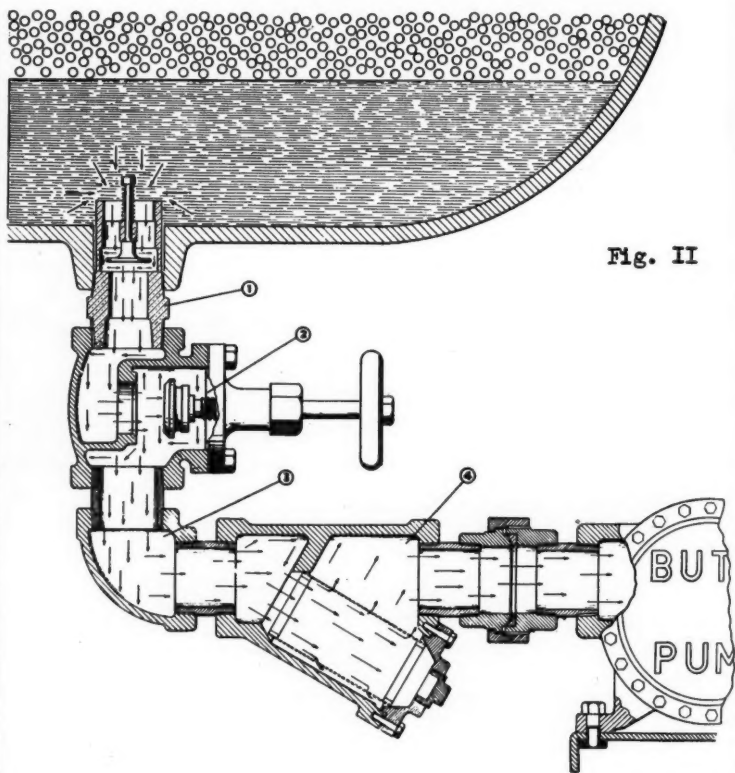


Fig. II

This drawing shows a pump intake assembly made up of (1) 3-in. excess flow valve; (2) 3-in. globe valve; (3) 3-in. elbow, and (4) 3-in. strainer, all of standard makes. It is worthy of note that the restricted flow area in the excess flow valve, just below the valve seat, is less than one-half the area of the 3-in. pipe, and that the excess flow valve as well as the globe valve become a serious flow impediment due to the numerous changes in fluid flow direction. The various units shown are drawn to scale.

ing installations handle propane better than they handle butane. Additional study of Table 3 will emphasize the fact that pump capacity is reduced most at the coldest temperatures. Very careful attention must be given to using the larger sizes of valves and fittings in the inlet line, so the installation can be satisfactorily used in cold winter months, when, often, the load is greatest.

The three tables have been made up for use as guides only. The figures listed must not be considered to be 100% accurate in every case. They represent practical results of some actual tests, as well as theoretical calculations. Their use will give results that will be most helpful in checking any installation. Data presented apply equally well to all different makes of pumps, including gear, vane, regenerative-turbine, centrifugal, and piston types.

Summary

1. It is important to keep vapor out of the pump inlet line in order to move liquid at the highest efficiency.

2. One of the two principal causes of such vapor formation is a sudden reduction in pressure forced by pump suction.

3. This reduction in pressure can be prevented by mounting the tank at a height above the pump sufficient to provide enough inlet head to overcome the resistance-to-flow of the pipes, valves, and fittings in the inlet line. This makes it unnecessary for the pump to draw liquid to its inlet by suction. Use large-sized valves and fittings, having low resistance-

to-flow values, in the inlet line whenever possible.

4. The resistance-to-flow of various sizes of valves and fittings are listed in Table 2. The values given can be added to obtain the total resistance of the inlet line. The required height of the storage tank can then be figured from the values given in Table I.

5. If your tank is not mounted high enough, the reduction in pump capacity resulting may be figured from Table 3.

6. This article applies to all makes and types of pumps. The figures may not all be 100% accurate, but they are close enough for practical use.

Part 2 Next Month

Green's Fuel Holds Service Clinic and Convention

Green's Fuel, Inc., Sarasota, Fla., held two important meetings recently. The first was a 4-day "service-clinic," starting on May 28, and the second was the annual meeting of Green's Fuel distributors from Florida, Georgia, and North and South Carolina. The latter was held at the Lido Biltmore hotel in Sarasota, June 1-2. A banquet was held on the first evening of the meeting.

At the distributors' convention, at which K. H. Koach, vice president and general manager, presided, papers and addresses were presented by the following men:

Mayor John Fite Robertson, Green's Fuel counsel; R. G. Thompson, Climax Controls Division; John Neal, Office of Price Stabilization; Harold E. Jalass, Cribben & Sexton Co.; Howard E. Felt, Warren Petroleum Corp.; John M. Perryman, R. D. Cole Manufacturing Co.; Charles M. Corke, Corken's, Inc.; G. G. White, Hartford Accident & Indemnity Co.

"Service After Sales"

By Grier Lowry

Johnson County L-P Gas, Inc., Olatha, Kan., has built a healthy rural appliance volume on a slogan—"Service after sales."

It is more than a slogan; it is a working business practice.

A FARMER "can usually attend to minor service problems, such as relighting equipment; but he is helpless if something goes wrong with a pilot light, thermostat, or in making a burner adjustment. If his furnace goes out, or his water heater is out of order, he expects prompt service."

This is the statement of J. Lee Laptad, president of the company. He says further: "Our success in selling farm customers is based largely on our offer of one year's free service on anything we sell. This guarantee covers labor, but not replacement of parts unless the merchandise carries a factory guarantee. Every man in our organization, including truckers, is an experienced repairman. Each man serves as an apprentice to older, trained servicemen for a designated period of time.

"Most of our calls concern pilot failures, burner adjustments, or thermostat failures.



J. Lee Laptad serves the rich Kansas City hinterland.

"When a customer reports the possibility of a leak, we check the lines with a gauge immediately. Occasionally we find a heat loss on venting, often in the flue cap. Old houses sometimes have flues that were tailored for heavy drafts, a setup which isn't required for modern LP-Gas heating equipment, and the result is a heavy heat loss.

"We employ 2-stage regulation on all heating jobs with a 15-lb. regulator on tanks and a 6-oz. regulator outside the house on heating installations," Mr. Laptad states. "Single storage units are used on light jobs."

The company stresses workmanlike installations, eliminating the likelihood of leaks. All-copper lines are used and are checked carefully under pressure for leaks.

"We make certain all burners are well-adjusted, and that the custo-



The Johnson County L-P Gas headquarters is a modern, roomy, 36x120-ft. layout.

mer is well-informed on the operation of equipment—that he knows how to light a range oven, use a timer, and how to simmer the burners,” said Mr. Laptad.

“If it is a furnace, we show him how to light it and operate the wall thermostat. He is shown how to relight his refrigerator, and how to set the temperature control. We make at least one follow-up call on each installation to see that the equipment is working smoothly and that the customer is entirely satisfied.”

A well-rounded stock of parts, including all types of controls, burner parts, thermostats, extra burners, water heater controls, and practically every item required to repair a Servel refrigerator supports the company's quick-service program. Special factory calls are seldom necessary. Parts are kept in 12x16x16-in. bins in a well-lighted area back of the main sales room.

Noon-Hour Radio

A 3½% cut of the gross volume is budgeted for advertising. The company uses newspaper and direct mail promotions and has five outdoor signs on strategic highway spots, but relies on the personal appeal of terse, one-half minute “spot” radio announcements, directed at farmers around the noon hour. The pitch in radio advertising is on the clean, low-cost, effectual LP-Gas as opposed to the old fashioned coal, wood, or oil.

“How do I sell? I make appointments to demonstrate my equipment. I go armed with plenty of informative literature because farmers like to have the facts in black and white.

“We closed deals for 35 or 40 forced air furnaces last year, 15 floor furnaces and about 25 or 30 circulating heaters.”

Although launched in rather humble fashion in a run-down store building, today the company has 250 bottled gas customers and 500 customers with 1000-gal. tanks and operates from a modern building with plenty of elbow room to display the top-brand roster of appliances.

Maine Dealer Uses Propane to Prevent Freezing of Cement and Soft Drinks

BECAUSE of propane gas, construction of 20 telephone cable circuit booster stations was completed in double-quick time during last December and January, despite the chill sub-zero temperatures which threatened to stall the job in northern Maine. The booster stations were built along the 175-mile route from Bangor to Limestone—home of an Air Force B-36 bomber base—followed by a special underground telephone cable.

Contractors D. G. Miller & Son, of Houlton, Maine, began the job early in the winter in a race against bad weather. Speedy completion of the job was imperative, according to the USAF. For a time it looked like the whole project would be stalled because there was no way to keep the wet concrete from freezing overnight.

The cost of keeping a watchman on each job to tend the wood, oil or coal stove necessary for heat would have been prohibitive. But the contractors had heard of special gas-fired preheaters developed for use by potato shippers. These heaters are used by shippers to preheat railroad cars before potatoes are stored in them.

The contractor contacted Petroleum Products, Inc., Houlton Utility Gas dealer, and presented his problem to A. O. Ludwig, the dealer. Ludwig suggested that the contractor round up some spare preheaters, and Ludwig would supply the necessary gas in easily-transported 20-pound cylinders.

Each night, after the preheaters were obtained, the entire job would be carefully covered with canvas, and the fully insulated heater set inside. It kept moist concrete from freezing and cracking, permitting prompt completion of the vital defense work despite temperatures that dropped as low as -30° and more.

During the construction period the contractor used more than 4000 pounds of gas.

A soft-drink bottling firm has finally solved its cold weather problems in northern Maine. This firm operates a fleet of five delivery trucks covering routes within a radius of 80 miles of Houlton, its home base.

During the chill Maine winters, this firm has been troubled by freezing of its soft drinks while in transit. Each of the trucks is equipped with an exhaust heater, but this just couldn't cope with the cold.

Again the problem was presented to Mr. Ludwig. He studied the trucks and finally suggested installation of small space heaters fed from a 20-pound cylinder.

A test was run, and the method found perfectly satisfactory. Now each truck, during the extreme winter months, is fitted with a space heater of about 25,000 Btu input which is equipped with a safety pilot.

Gas consumption is relatively small—just about three 20-pound cylinders per truck, per winter. But the unusual adaptation has a definite promotional value, Ludwig finds.



One of the packed houses that proved in numbers the popularity of Uregas cooking schools wherever they were held.

Cooking Schools, Drawing 20,000 in 1950, Give Dealer Huge Sales Volume

THE instinctive desire of women to beautify their kitchens with modern appliances and their desire to learn new methods of cooking have been the direct causes of making home service demonstrations by gas dealers and utilities marked successes throughout the country.



KEN DICKSON

A striking illustration of how successful such cooking schools can be has been demonstrated in the last two years by a forward-looking LP-Gas dealer of Missouri, Uregas Service, Inc., with headquarters in Moberly.

This firm, sensing the value of publicity and the opportunity to present its product and appliances in a sales-wise light, has made such schools an important factor in its sales and promotion plans.

Last year's efforts of this company resulted in the astonishing attendance of 20,000 women at cooking demon-

strations—women who not only absorbed modern cooking methods but proved their interest in numerous instances by purchasing appliances in the period immediately following such demonstrations.

Each of the 71 schools last year was held in the largest public auditorium or theatre available in a given area and each drew a capacity crowd. The demonstrations drew the remarkable attendance of 10,000 women to 30 schools in the first year of presentation, 1949, and the smallest attendance at any class, 112, represented nearly 30%

of one small community's population.

The stimulating effect cooking demonstrations can have on the growth of an LP-Gas business is again illustrated by the Uregas concern.

The corporation was founded 10 years ago, by Kenneth H. Dickson, vice president and manager, and Frank K. Westlake, vice president with the backing of the latter's father, W. I. Westlake. Mrs. Dickson is secretary-treasurer of the Moberly company.

Mr. Dickson subsequently be-

Informative and well-planned cooking demonstrations are a major part of this company's comprehensive service program.



came a leader in the Midwestern LP-Gas industry, serving as president of the Missouri LP-Gas Assn. in 1946-1947, and is currently Missouri state director of the National Liquefied Petroleum Gas Assn.

Ken Dickson's company has grown from its first quarters in a 50-by-20-foot building to the point where it now has four companies and two branch plants that serve most of eastern Missouri and western Illinois. Last year Uregas grossed \$2,000,000 from the sale of fuel and appliances and expects to gross 50% more in the first quarter of 1951 than it did in the same period last year. It serves 40,000 customers!

Cooking classes were well advertised and publicized in advance of starting dates. In many cases full page ads were run in district publications, but in one case the lack of a suitable publication made mimeographed hand-bills necessary. A capacity crowd attended, nonetheless.

Mr. Dickson explains that the success of Uregas and its cooking demonstrations is due to the fact that the center of a housewife's life is in her home—the center of her home is in the kitchen—and she never tires of learning more about the art of preparing and serving meals or about new methods and conveniences.

"We have found cooking schools to be a neighborly way of proving to the public that LP-Gas is a better fuel and that Uregas serves as no other service can," Mr. Dickson says.

Uregas officials give a large share of the personal credit for success to the corporation's plant and district managers.

The five Uregas plant managers are: Martin Loos, Cape Girardeau; Earl Rasmussen, Rolla; George Miller, Quincy; Jack H. Goode, Wentzville, and Clyde Nenninger, Portageville.

Uregas district managers are John Longmire and Glen Stuart, of Moberly; Dale McNaughton and John Lynch, of Cape Girardeau, and George Adams, of Quincy. Melvin Vogel is assistant manager of the Uregas plant at Cape Girardeau and Delbert Reynolds is foreman of the Moberly plant.

It is estimated that the company will require 1000 tank cars of LP-Gas—10 million gallons—to handle its volume business this year. Service was the idea upon which Uregas was founded 10 years ago. It is still the basic idea—and cooking schools play a principal part of that service.

Management Short Course Held at Purdue

A two-day conference for LP-Gas managers was held at Purdue University on June 28-29, sponsored by the technical extension division of the Lafayette, Ind., institution and in cooperation with the Indiana Liquefied Petroleum Gas Assn.

The program, planned with the assistance of managers of LP-Gas companies, included discussions on Basic Operative Costs, Breakdown of Operative Costs, Load Balance and Selling Methods, Advertising Budgets, Employee Relations, and Customer Relations.

HOW TO SELL THE FARMER— *Be Sociable*

By GENE CREIGHTON



Earl Coryell's Red & White Plumbing Co., Meridian, Idaho, sells more appliances through sociability than through all the promotional gimcracks in the book.

BOTH my salesmen and I follow a plan to make only social calls," Mr. Coryell grinned. "Sitting around a fireplace, watching a farmer at work in the dairy barn, or lending a hand in the kitchen on such a social call, has sold more merchandise for us than any amount of discount offers, special sales, or typical salesmanship methods. Instead, we talk to the farmer at his own level, try to get on a first-name platform right away,

and make so many calls on our farmer prospects that eventually they will either eagerly or grudgingly agree that they do need a new floor furnace, a new refrigerator or range, plus other items which we have to offer."

Started Business in a Barn

Mr. Coryell, whose territory covers a 100-mile radius in the rich "orchard lands" between Meridian and the state capitol of Boise, handled his gas and appliance volume from a red-and-white barn on his own farm until the spring of 1949. Starting out with little more than a practical "know-how" and considerable experience in farm plumbing, water systems, etc., Mr. Coryell branched into LP-Gas equipment as a natural adjunct to his plumbing business, and soon found that "the tail wagged the dog." Through an unusual philosophy of selling the rural customer and sticking to it religiously, he did so much business that last year his operations were transferred from the red-and-white barn which gave the company its name, to a beautiful new \$15,000, 60x60-foot showroom, on the Meridian highway.

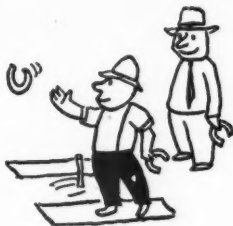
Handling top nationally-advertised

lines of butane and propane appliances, Mr. Coryell subscribes to the theory that it requires plenty of "outside selling" on the customer's doorstep in order to make a success of any appliance sales operation.

Uses Radio Program

The Idaho dealer lets his rural prospects know "the Coryell story" and urges them to watch for the red-and-white salesman to call. A weekly 15-minute radio program is devoted to newsy topics of high immediate interest to farmers. In addition, the Red and White firm contacts every prospect in its area at least once per month by direct mail, including personalized letters, as well as manufacturers' literature, folders, and other types.

Through the influences of radio and mail, when a Red-and-White salesman calls, the farmer is usually ready to "get down to brass tacks" immediately on the subject of appliance replacement, or new purchases. However, Mr. Coryell has impressed upon his sales force that they should maintain an attitude that "there's plenty of time to talk the thing over," and to display real interest in the farmer and his problems. "We make a lot of friends," Mr. Coryell said, "and we like to think that the customer to whom we have already sold a 500-gallon LP-Gas system and three or



four appliances is enthusiastically boosting us to friends and relatives who will eventually want the same thing. I've done a lot of farming myself, and therefore, I believe I understand the farmer's attitude. As a result, we sell a much heavier volume through actually taking the emphasis off of selling where the farmer is concerned."

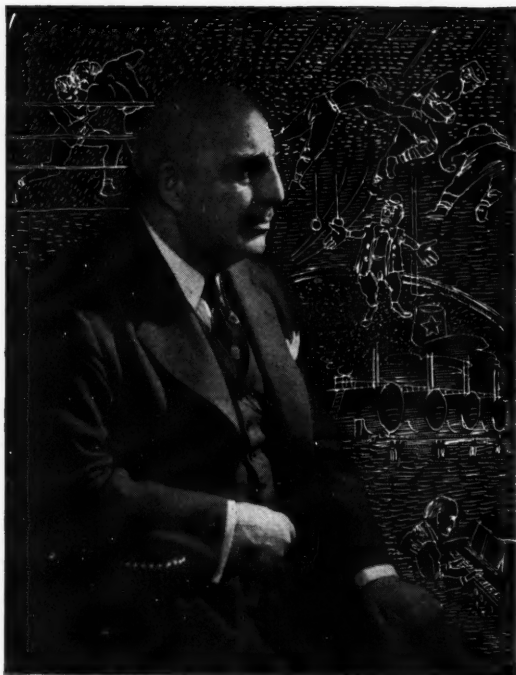
Texas Firm Campaigns Now For Larger Winter Storage

Last winter's freezing gales have opened a "new" market for the Marshall Butane Co. of Marshall, Texas, which is currently enlarging both its territory and storage facilities.

The firm, owned and operated by Coy Roper, is offering special, attractive deals to its regular customers on larger tanks or auxiliary bottles. East Texans learned during their spell of "unusual weather" that the more butane they keep in their tanks the better off they are as far as pressure and emergency supply are concerned.

Special cost cuts are being offered during the summer months "before the advent of winter and the rush season," as Mr. Roper explains. Arrangements have also been made to add 40,000 gallons of storage capacity to the present facilities of the plant.





The man who asks, "Why?"

SHOULD you ask Mark Anton, president of Suburban Propane Gas Corp., to name the principal reason for his more than ordinary success, he would reply, "I've always asked 'WHY'." At every critical stage of his career he has weighed accepted formulas and come up with his own answers.

He was the high school wrestling champion of New Jersey and spent three years as tackle and guard on the state championship football team. He applied the same tenacity and pre-

cision in setting up a tiny, one-man business to distribute the new liquid fuel around West Orange, New Jersey, and built it, in 20 years, to the "big time" corporation it is today, serving 32 districts along the Atlantic seaboard.

In the late 1920's, Anton, who was operating a thriving machine shop near Newark, moved out beyond the gas mains. Mrs. Anton was quite upset at the prospect of keeping house without gas and Mark Anton just wouldn't accept a gas-less house as

one of the penalties for "living in the country." At that time, liquefied petroleum gas was newly-born and little more than a name. He saw this fuel as the answer to his domestic problems. Adding to his own the like problems of his neighbors and friends who were moving into suburban and rural areas, he sensed the promising future of the new fuel as a business, and in 1929 set up the Suburban Gas Co.

Before his infant enterprise was fully weaned, his eternally challenging "why" drove him beyond the orbit of his own operation, to the possibilities of a giant industry. In 1931 he was one of the small group that organized the Natural Bottled Gas Assn., which has since become the Liquefied Petroleum Gas Assn., and was elected its first president, serving for four years.

Enlarged Corporate Holdings

He began to apply new marketing methods to the sale of his service. Such methods made it possible to greatly expand his field. The business underwent a steady growth to adulthood. On the corporate side, small companies could be put together to make a larger, more efficient unit. This, Anton proceeded to do.

This groundwork paid off in 1945 when the Suburban Propane Gas Corp. was formed to combine Suburban Gas with the "Philgas" outlets, which handled the Eastern business of Phillips Petroleum Co. In 1950, "big time" Suburban sold 125,600,000 pounds of gas!

In May, 1950, Mark Anton was awarded the first Distinguished Service Life Membership by the Liquefied Petroleum Gas Assn. "Why?" Here is a run-down on Anton's active life of service to his country, community, and the industry.

During World War II he was Chief of Fuel Oil for the Petroleum Ad-

ministration (East Coast), later serving as New Jersey manager of the Smaller War Plants Corporation. In December, 1950, he was named chairman of the Liquefied Petroleum Gas National Advisory committee, to insure adequate representation in Washington; and, in March of this year, was invited by OPS to serve on the LP-Gas and Natural Gas Industry Advisory Marketing committee.

He sponsored and directed a demonstration of the superiority of gas over electrical cookery in the very heart of U. S. cynicism and conservatism, the financial district of New York City, and proved to the New York Society of Security Analysts with facts and figures, and irrefutable demonstrations, the intrinsic value of LP-Gas to America's rural and suburban economy.

He is a Freeholder of Essex county and past chairman of the Transportation committee of West Orange. At various times he has acted as chairman or associate chairman of the fund-raising committees of the Community Chest, East Orange General Hospital Building Fund, and National Conference of Christians and Jews. He is a member of the Marymont Fathers Council and a former trustee of the Carteret School for Boys. Tempering these more serious endeavors, he serves as treasurer of Circus Saints and Sinners. At 40, he learned to play the piano, and is now teaching himself to play the Hammond organ!—possibly preparing himself for membership in the Ancient and Accepted Order of Organ Pumpers.

It would be folly to think that days of expansion and activity for either Mark Anton or his company are lessening. To such a prediction he would most likely respond with a most aggressive "WHY"!

—Keith Clevenger

PRACTICAL MANAGEMENT

OF AN LP-GAS BUSINESS

CHAPTER 4

Relation of Appliance Sales To Initial Investment

TODAY the gross profit for dealers on the selling price of appliances is approximately 40% on domestic ranges, 33-1/3% on gas water heaters, 33-1/3% on gas refrigerators, 25 to 40% on heating appliances and from 25% to 33-1/3% on commercial appliances. Specialized industrial appliances and motive power units offer approximately 25%. At first sight it might appear that substantial profits were to be garnered from the appliance business and opportunists have swarmed into it.

One might almost at this point ask, why bother with anything but appliances? The record of those who have tried this is soberly dis-

By C. C. Turner



couraging. Recently over 5000 appliance dealers went into bankruptcy in a single month, and the credit standing of those who have elected to live by appliances, alone, has not been good in innumerable cases. I do not happen to know of a single person who has become independently rich in the appliance field alone. Why?

It is because the appliance business is a necessity-plus undertaking, bordering upon the luxury side because of departures which it has made from the field of fundamental requirements due to competition within itself. It succumbs to price cutting readily, and gross profits of 25%, 33-1/3%, 40% or even 50% in it cannot be chiselled too much without dire results because of the inherently high cost of doing business in this particular field of endeavor.

Profits Diminish

Peg a maximum average percentage of profit in your mind as being 40%. Deduct from this at least 5% for transportation costs. Take away at least 10% as the cost of doing business. Write off another 10% for excessive allowances on traded-in appliances. Figure that adjustments on transportation damages will amount to at least 2 1/2%. Right at this point you have but 12 1/2% left. If you employ a salesman he will nick you for another 10% and leakages in your business may amount to as much as 2%. If you are this type of operator you have only 1/2 of 1% left for profit and unless you have tremendous volume of operation

you are but a losing jump ahead of the sheriff.

By being prudent, cutting corners, watching expenses and otherwise operating efficiently, one may net 10% on retail appliance sales. Both appliance manufacturers and dealers must come to realize that appliance sales are primarily a means to an end and not the end



GROSS PROFIT
40%



NET PROFIT
1/2 OF 1%

Why fool with anything but appliances?

TABLE 4. AVERAGE NET PROFITS FROM APPLIANCE SALES

| Type of Appliance | Gross Profit % | Transportation % | Cost of Doing Business % | Net Profit % | Average Dollar Sale | Average Dollar Net Profit |
|--------------------------|----------------|------------------|--------------------------|--------------|---------------------|---------------------------|
| Domestic Range | 40 | 5 to 10 | 10 to 17½ | 12½ to 25 | \$150.00 | \$18.75 to \$37.50 |
| Water Heater.... | 33½ | 3½ to 7½ | 10 to 17½ | 8½ to 20 | 125.00 | 10.42 to 25.00 |
| Refrigerator | 33½ | 5 to 10 | 10 to 17½ | 6 to 23 | 225.00 | 13.50 to 51.75 |
| Heating Units ... | 25 to 40 | 3½ to 7½ | 10 to 17½ | 0 to 26½ | 85.00 | 0.00 to 22.53 |
| Commercial Units | 25 to 33½ | 10 to 20 | 10 to 17½—12½ to 13½ | | | |

itself. Appliance profits are most desirable and they may serve as the means of getting you started in the gas business, but if there were no gas, no oil, no coal (and perish the thought) no electricity, then there would be no need for appliances with which to use them. The fuel does the job and the appliance is but a medium through which the fuel works. A study of Table 4 is proof that appliances in themselves are not a royal road to riches. To make a net profit of \$5000 per year one would have to sell from 133 to 266 domestic ranges per year; or from 200 to 479 water heaters; or from 96 to 370 refrigerators; or at least 222 heating appliances. Commercial appliance sales are even less profitable, and it might seem that they are to be avoided, but in spite of the very small profit derived from their sale they should be promoted most actively for they are your largest load builders.

How, then, can appliances be such a factor in getting started in the gas business? It is by making the gas business self-sustaining until it is large enough to stand on its own feet from gas sales profits alone. It provides the neces-

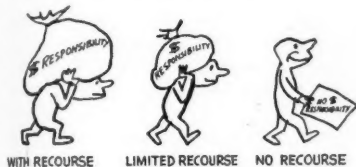
sary capital for investment in gas equipment. Until the time when a dealer's gas business is large enough to support itself and provide for this necessary investment you probably will have to combine it with some other business in order to provide a livelihood. That is why you find so many people in the gas business who do not give their entire time to it. This may be one reason why it has not grown even faster, but it has also provided the LP-Gas industry with a firm foundation of earned instead of borrowed capital.

Where Your Appliance Profits Go If You Don't Watch Out

| | |
|---------------------------------------|---------|
| Average maximum discount | 40% |
| Transportation cost ... | 5% |
| Adjustments on transport damage | 2½ |
| Cost of doing business.. | 10 |
| Excessive trade-in allowance | 10 |
| Salesman's margin ... | 10 |
| Business leakages | 2 |
| | 39½% |
| Net Profit * | ½ of 1% |

This self-financing of necessity also works to your ultimate advantage in another way, particularly if you are in the bottled gas end of this business. No customer, no matter how small a user he may be, likes the feeling of insecurity with which a single cylinder in-

There are three types of conditional sales.



stallation leaves him. The average sale of a domestic range will only finance such an installation, but if an additional appliance is combined with it, the combined sale will finance a two-cylinder automatic installation.

By getting him to buy two major gas appliances you are halving the possibility of his ever going over to your arch enemy, electricity. True, you will have to lower your gas price to him under a dual usage setup, but he will use a whole lot more gas, and by installing equipment of greater gas

capacity you can cut down the number of delivery trips which you will have to make, thereby putting more dollars in your pocket. The day of small-volume, big-profit sales in this business is all over and through multiple appliance sales you help to achieve the big-volume, small-profit goal toward which the gas business is progressing. This is the only answer to the increasing electric competition.

If your reputation for paying your bills is good, you will be able to find some range manufacturer who will play along with you on one or two appliances on open account, but pay day comes either when you sell the range or when 30 days from the date of shipment have expired. Here you are apt to strike another snag, for 90% of the American people purchase appliances on deferred or time payment sales.

Who are you going to get to discount your time payment paper for you? Many local banks engage in this type of business and there are large finance companies which are devoted to buying time payment paper. Before you make a time payment sale you must make sure that you are lined up with some such financial institution and that they will accept the paper that you submit to them.

There are three types of condi-

"A gas business should be self-sustaining until it is large enough to stand on its own feet from gas sales profits alone."

tional sales contracts insofar as you are concerned. The most common is that "with recourse." There are "limited recourse" plans and plans "without recourse." How do these plans differ?

In financial language the word "recourse" means that if the buyer doesn't meet his payments when they are due, then you must pay them, and if he skips town or decides not to continue payments you have got to reimburse the paper holder immediately in full. Paper sold to a bank or financial institution "with recourse" means that in event of default by the buyer you can be required to make good in full immediately.

"Limited recourse" paper usually provides that if default occurs within the first three or four months you have got to make good immediately, but after that period of time you have no further responsibility. "Without recourse" contracts remove from you all responsibility for the customer's default at any time.

For the beginner in appliance sales who has little if any capital, the "without recourse" plans are the most desirable, but they do have one outstanding disadvantage. People who make a business of accepting this kind of paper make certain that they get well paid for the risks which they accept and this means higher financing charges, and these may place you at a disadvantage in relation to your competitors. The good risk has to pay for the bad one.

Beware of any finance company which tells you about the wonderful "reserve" fund that they so

kindly build up for you by withholding 10% of the so-called "deferred balance" which quite often amounts to more than the cash selling price of the appliance. In the first part of this chapter I told you that your net profit on appliances would average about 10%. The first evil of such withholding plans is that you don't get your net profit back for at least a year and you can't afford to enter into any such kind of an agreement.

Furthermore, there is an innocent looking little paragraph in such agreements that permits the finance company to charge back against your "reserve" any delinquent accounts or costs of collection. The result is that you actually work for nothing and the finance company benefits by the 10% net profit which should be



Beware of any finance company which tells you about the wonderful reserve fund they will so kindly build up for you.

yours. Any such plan is not a "without recourse" plan, although some finance companies try to sell them to dealers as such.

The handling, or finance, charges which finance companies charge have been the disastrous rock onto which many appliance merchandisers have been lured, for they appear to be inviting. As a result of their attraction many such merchandisers with a little money to spare have been tempted to carry such paper and collect similar charges to their own benefit. My personal advice to you, even though you have money to spare, is not to finance any time payment paper on your own behalf, not even on your own endorsement through your own bank. The people whom you will be selling will, for the most part, be your neighbors and friends. It is only natural that you should wish to help your friends in their time of distress, but it is also true that our friends most often take advantage of us in financial matters.

Defaults Cut Working Capital

Let us suppose that your friend "Bill" has an accident and can't meet his payment due on the 30th. If you carry the paper and he comes to you, what else can you do but take care of the payment for him?

Now Bill's accident puts him farther into debt than he had anticipated and he has difficulty in catching up again. You don't want to press him for the money, and if you do you are quite likely to lose a friend. In all probability

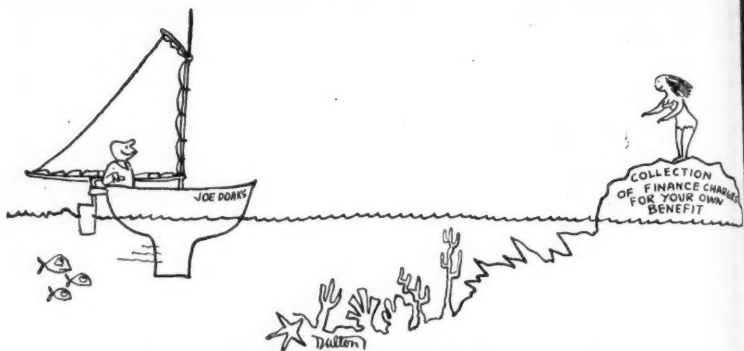
Bill will pay up some day but in the meanwhile, for want of such cash, you may have had to pass up some good deal where you could purchase merchandise at a particularly attractive price.

How much better it would be if you could tell Bill when he comes to you, "Bill, I'm sorry, and I'll do what I can with the finance company, but you of course realize that I don't own that note you gave me."

Contract Transfer Is Wise

Now, in selling your contracts to a finance company, you are not condemning Bill to torture by financial ogres for the reputable finance companies don't follow such practices. In the first place, they cannot afford the notoriety of heartless collections. Secondly, collections and repossessions cost them money. The last thing that they want to do is to repossess Bill's range. They want him to pay up as soon as possible. I have never known of an instance where one of these companies has been unreasonable with a customer who has a legitimate excuse or a piece of hard luck.

Their experience is in the field of finance and they know much more about it than you do. They are students of human nature and human problems. Quite often their approach to a problem such as Bill's is, "Will we help him or hurt him by letting him defer his payments for a while?" Bill won't fool them or play on their sympathies as he could on yours, but if there is any possible chance of Bill making his payments you can rest as-



Do not handle any time payment paper on your own behalf.

sured that they will play along with him. In the meantime, your capital isn't tied up.

How do you go about lining up with a finance company? You apply for their service, and most likely a representative will come around to talk with you, form an opinion of you, and inspect your premises. You will probably have to submit a financial statement. Quite often a finance company will go ahead with a dealer when a local banking institution will not, but if they do not feel that you have more than an even chance of success and if your past reputation has not been good, they will in all likelihood pass you up. They are not to be blamed for this, because they have had all kinds of unsatisfactory experiences with the poor-business-risk kind of operator.

Finance companies and banks also have another kind of service to offer you in connection with your appliance sales, and you may have to make use of it at some time, although I advise you to

avoid it as a general practice. This is what is known as "floor planning," and it is used where the manufacturer or distributor is unwilling to sell you on an open account basis.

Under this plan the manufacturer sends the bill-of-lading to the bank and gives it the serial numbers of the appliances. Before the appliances arrive you go to the bank, pay them 10% of the invoice plus a small interest charge and arrange with them for such insurance upon the merchandise as they may require.

When the goods arrive you pay the freight and the bank or finance company pays the manufacturer the entire amount of the invoice. If you sell any of the merchandise you must immediately on that same day pay the bank the amount of money that they loaned you with which to buy the appliance. If you do not sell the appliance readily you will probably be required to pay off 10% or more per month until the appliance is

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entirely paid for. The rate of interest charged is usually $\frac{1}{2}$ of 1% per month on the unpaid balance with a minimum percentage of interest specified if you sell the appliance within 30 days.

The proposition is a fair one, but my reason for advising you to avoid it as much as possible is that it is just another one of those little expenses which run up your cost of doing business and cut down on your profits. You cannot encroach much with that average net profit of 10% on appliances without it hurting you.

Stimulate Cash Sales

Perhaps you may not be able to get anyone who will finance your time payment sales. Many men have made good in spite of this handicap. On the surface of it, it might seem that you were condemned to serving but 10% of the available market until you get onto your feet, but in practice this is not the case. Many of those who buy through time payments can afford to pay cash, and you can build up a pretty picture for their benefit about the high cost of time payment sales and the amount of money which they can save by paying cash. Many of them who do not have the ready cash have a place where they can borrow it for less money than the amount of finance charges. Most people are thrifty and will borrow elsewhere if the savings to be gained are brought to their attention.

On this subject I have just a few words more to say from my book of experience. At one time the company with which I am con-

nected had great difficulty in borrowing money for its needs and particularly for time payment financing. Today we are no longer bothered in that respect and, in fact, loan money to others in order to help them get started.

I got the habit of getting the other fellow to borrow the money in those days and I haven't lost it. If anyone wishes to buy anything from me "on time" today, I still try to get him to borrow the money from someone else. I like it. It gets me out of the middle of the deal. If tough luck strikes the purchaser, he isn't coming to cry on my shoulder. The other fellow who loaned him the money is the one to wipe his salt tears off from his shirt front. Try it. It quite often works, and it will save you a lot of headaches.

Avoid Collections

As a parting word of warning I most earnestly suggest that you never collect a cent for any finance company for in so doing you defeat the best reason for financing paper through others and that is the removal of yourself as the creditor in the customer's mind. Furthermore, you have no legal right to do it; and the finance companies don't like it.

Render service, plenty of it, and keep the customer well pleased with the appliances which he has purchased through you, but don't stick your neck out asking for trouble when there isn't any need of it. You are doing this when you act as a collecting agent for someone else!

Servicing Thermostats in the Field

By M. B. GAULT

Field Representative, Robertshaw Thermostat
Division, Robertshaw-Fulton Controls Co.,
Youngwood, Pa.

In Four Parts. Part 4—Space Heating Commercial — Brooding — Calibration

SPACE heating problems are many and varied. The main concern is to make the customer comfortable. To do this, it is necessary that sudden, abnormal temperature changes do not occur in the room. The temperature change in the "living zone" (about 4 feet from the floor) should not exceed 3 degrees in a normal installation.

Naturally, when excessive temperature differentials are found, the control is blamed. In some instances, the control is at fault. More often, it is a matter of improper installation.

In analyzing control problems in space heating applications, it is important that we remember this one thing: The control can do only what the temperature surrounding its sensitive element tells it to do. This is why manufacturers of space heating controls constantly stress proper location of their controls—whether it be on the wall or at the heater itself.

Let me remind you again, then, that cold air currents from windows, doors, cement floors and the like, affect the control. It is also true that the control's sensitive element cannot be placed in dead-air pockets, but must be placed in the path of the moving air as it circulates naturally through the room.

These are all things to look for when investigating a complaint which involves poor control of temperature. Remember that the control always must be

This series of articles on servicing thermostats in the field by Mr. Gault is of tremendous value to liquefied petroleum gas dealers for they enable servicemen to analyze trouble and make repairs on the job. All four parts of this series should be retained for future reference.

Part 1, appearing in our March issue, discussed the different types of thermostats and how they operate; Part 2 in the April issue was on water heaters; range thermostats were discussed in May, and the series closes this month with an article upon the problems encountered in space heating and other operations.

sampling the true air temperature of the room in order to function properly. This does not mean that the temperature at the sensitive element must be the same as the temperature in the living zone. It does mean that the *rate* and direction of temperature change should be approximately the same.

Service routines on wall controls and solenoids are relatively standard. It is for this reason that, in our discussion of specific space heating controls, we have chosen that type which is found in or near the heater.

The Robertshaw-Grayson "Unitrol" is found on many types of space heaters, wall heaters, and floor furnaces (Fig. 22). Its ad-



M. B. GAULT

vantage is that the heater is easy to install, since the control is part of the heater itself. The installer needs only to run the gas line to the heater and properly vent it.

The position of the Unitrol on the heater and the location of the sensitive element have been factory engineered. This relieves, to a great extent, the installer's responsibility of locating the control properly. It is still true, however, that the control's operation will be adversely affected by such things as cold floors, drafts, etc. The installer, then, should guard against placing the heater in a spot where these outside influences might be felt.

The space heater Unitrol and the water heater Unitrol (described in Part 2 of this series) are exactly the same, except for the sensitive elements. Because of this, the service routine is the same.

Another type of snap-action space heating control is the Robertshaw Model No. 2ES (Fig. 23). This unit is a straight control, however, and does not include the Unitrol features of 100% automatic shutoff and the integral gas-cock.

The calibration of this control

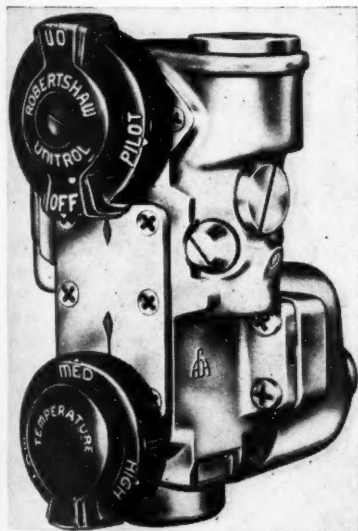


Fig. 22

is very simple. The temperature plate (1) is marked Low (60°), Medium (70°) and High (80°). In recalibrating, wait until the room reaches a stable temperature by allowing the control to cycle several times. Loosen nut (2) and move temperature plate to its proper position and then re-tighten the nut (2). To clean the valve disc and seat, loosen cap (3) and remove. The removal of this cap also removes valve spring (4) and valve disc (5). Clean valve disc face and valve seat and reassemble, tightening cap (3) securely.

The companion to this control is the graduating-type Model No. 2E (Fig. 24). On this type of

control it is necessary to set a minimum flame on the main burner. As in oven controls, you must be positive that the main valve disc is seating before making the adjustment. It is advisable to set the control to "Medium," light the burner and allow the room to rise in temperature. As the "Medium" temperature is approached, the burner flame will gradually decrease in size. Next, reset the control to "Low." The next step is to remove cap (6) and turn adjusting key either right or left until a small flame, $\frac{1}{8}$ " high, appears on the main burner. This is the minimum flame and always remains on the burner, even

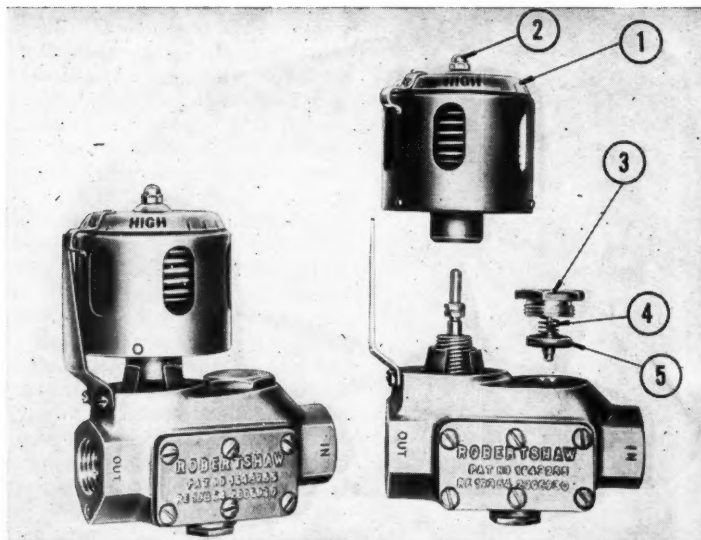


Fig. 23

though the desired temperature has been reached and the main valve disc is resting on the seat. To clean the control, it is necessary to remove the bellows assembly (7) from its position on cap (3) by turning clockwise. Loosen cap (3) and remove. It is now possible to clean the valve disc (5) and seat.

Calibrating this control is the same as in the Model No. 2ES. Both the Model No. 2E and the Model No. 2ES must be properly located by the installer of the heater. Here again, the factors which influence the functioning of the control must be remembered.

The remainder of this article will be devoted to controls as they are found in commercial and industrial applications. I would ask you to recall one of our first statements—"Controls are similar." This is still true. In commercial and industrial applications, we find both snap-action and graduating controls. We also find controls which fall somewhere between these two types. That is, the control may be of the modulating type, but the action of the valve disc has been accelerated to the point where it approaches the snap-action valve disc in its movement. We find controls which govern temperatures through a wide variety of ranges. We find controls which have been specifically designed to perform a specific job. Even so, the service on these controls is, almost without exception, the same as we have described on previous controls.

Because of the intensive, and oftentimes continuous, use of these

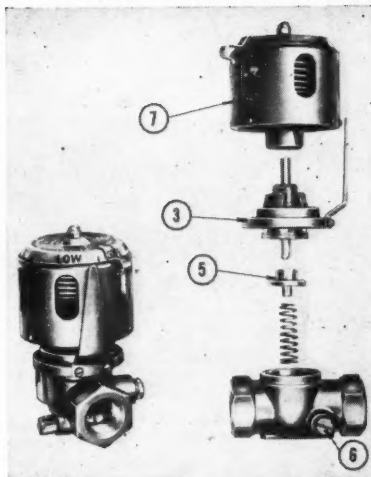


Fig. 24

controls, they are usually of a more rugged construction than their domestic brothers. It is still necessary that they be handled intelligently and with care. The most rugged of any type of sensitive equipment cannot stand continuous abuse.

The most common service performed on any control is either calibrating or cleaning. While the actual mechanics of calibration may differ between controls, the routine of calibration is fundamentally the same. As a "rule of thumb," you might follow this procedure: Set the control dial (or knob, or pointer) to the temperature at which the appliance is most commonly used; allow the temperature surrounding the sensitive element to stabilize; measure this temperature with a thermometer and then compare it with the

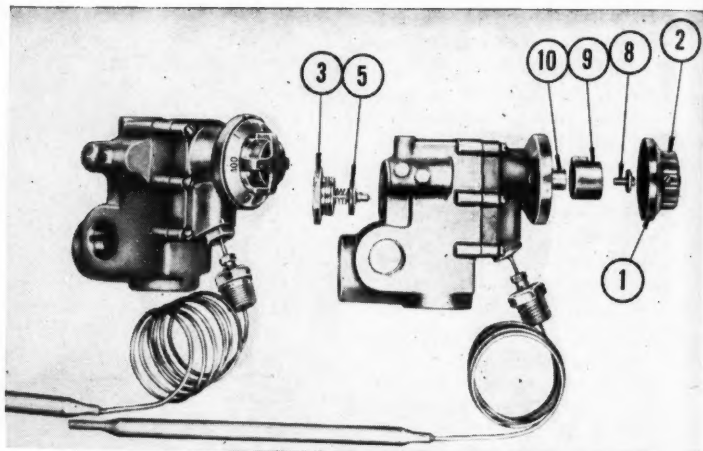


Fig. 25

control setting. If the variation is too great, it is a simple matter to unlock the dial and rotate in the proper direction far enough to compensate for the variation. Cleaning means that the main

valve disc must be removed so that it and the valve seat may be cleaned.

If the control is the graduating type, then it is equipped with a minimum flame adjustment which

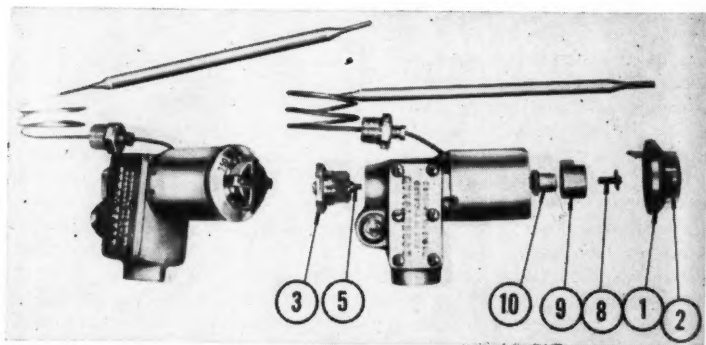


Fig. 26

must be made at installation and checked on any service call-back.

Figs. 25 to 32 show several types of commercial controls as manufactured by The Robertshaw-Fulton Controls Co. Each one shows the control fully assembled and also partially dismantled. The dismantled view illustrates the parts involved in both calibration and cleaning. Minimum flame and pilot adjustment points are also noted.

Fig. 25. Model CTS. Type: Snap Action

Use: Deep fat fryers, griddles, bake ovens and various industrial processes.

Cleaning: Remove valve cap (3) with valve disc (5) attached.

Calibration: Loosen set screw (2) and remove dial (1). Loosen screw (8),

but do not remove. Pull out driver (9) until it clears the splined part of shaft (10). Rotate driver (9) in proper direction and replace on splined shaft (10). Tighten screw (8) and replace dial (1). Check calibration. If calibration is satisfactory, retighten screw (2). If calibration is not correct, this routine must be repeated.

Other information: This control can be supplied with steel capillary and bulb filled with a special high temperature liquid for high temperature use. It can be equipped with minimum flame and pilot adjustments where desired. A companion to this control is the Model CTT, which is the graduating type and highly sensitive. You may also convert this control from snap action to graduating motion by the simple

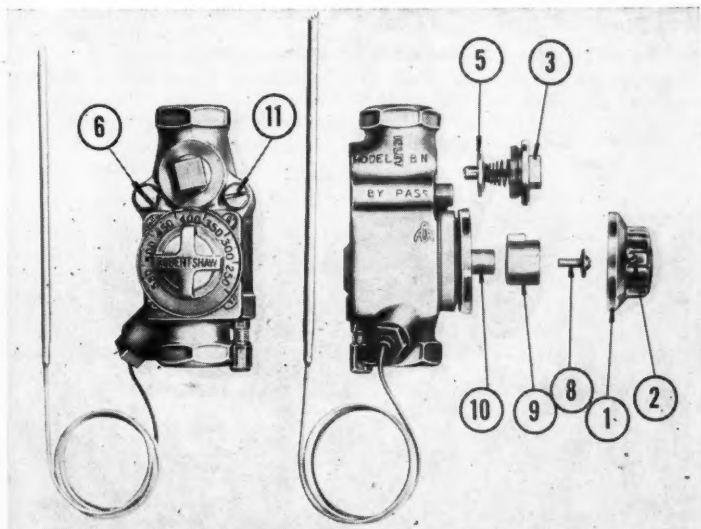


Fig. 27

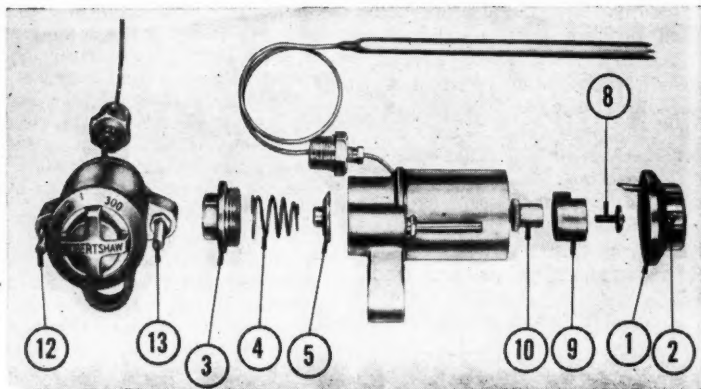


Fig. 28

substitution of the operating mechanism which comes to you as a complete assembly.

Fig. 26. Model XS. Type: Snap Action

Use: Deep fat fryers and industrial uses.

Cleaning: Remove valve cap (3) with valve disc (5) attached.

Calibration: Same as for Model CTS described in Fig. 25.

Fig. 27. Model BN. Type: Graduating

Use: Bake ovens, restaurant and heavy duty ranges, control of various industrial processes.

Cleaning: Remove valve cap (3) with valve disc (5) attached.

Calibration: Same as for Model CTS described in Fig. 25.

Other information: Minimum flame adjustment is under cap (6) and pilot adjustment under cap (11);

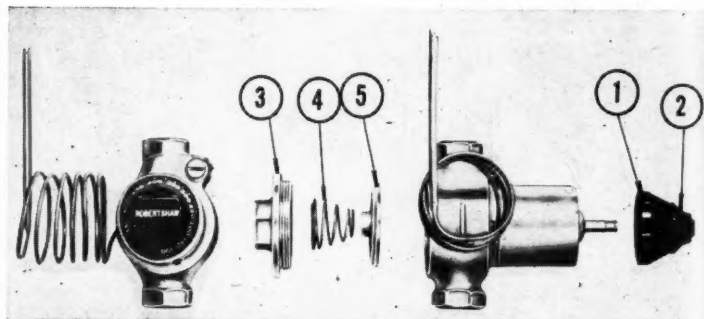


Fig. 29

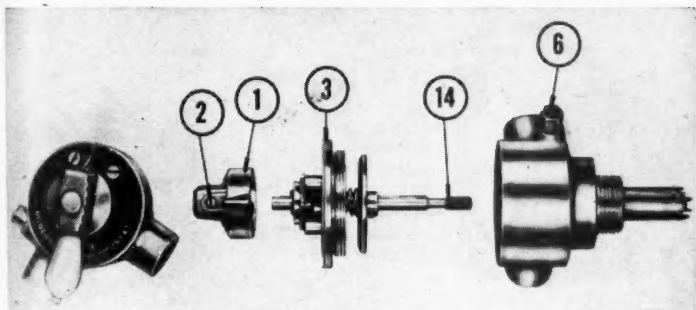


Fig. 30

also available with steel capillary and bulb filled with high temperature liquid for high temperature use.

Fig. 28. Model AS. Type: Graduating
Use: Warming ovens, griddles, deep fat fryers.

Cleaning: Remove cap (3), valve spring (4) and disc (5).

Calibration: Same as for Model CTS described in Fig. 25.

Other information: To adjust the minimum flame, turn by-pass key (12)

in either direction. To adjust pilot flame, turn pilot key (13) in either direction.

Fig. 29. Model XR. Type: Graduating
Use: Bake ovens, tobacco barns, industrial processes.

Cleaning: Remove cap (3), spring (4) and disc (5).

Calibration: Loosen set screw (2). Rotate dial (1) to desired temperature setting and retighten screw (2).

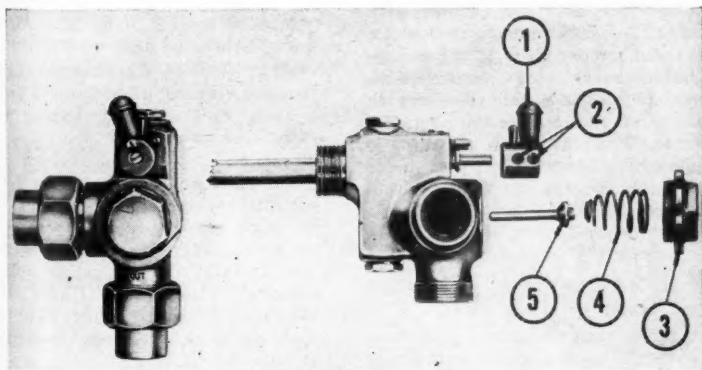


Fig. 31

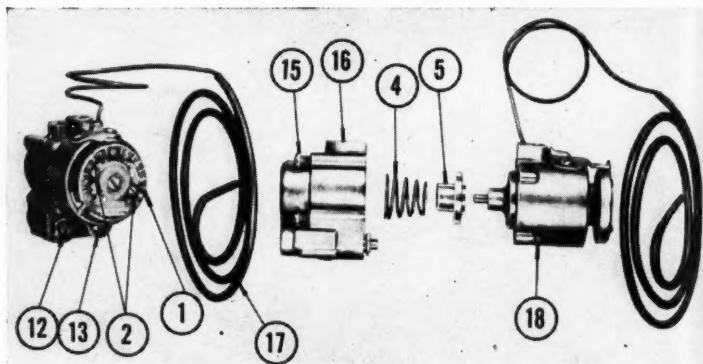


Fig. 32

Fig. 30. Model GC. Type: Graduating
Use: Coffee urns.

Cleaning: Loosen set screw (2) and remove knob (1). Remove cap (3) and lift out entire assembly.

Calibration: Fill urn (where control is installed) with water. The temperature of this water should be held at 185° with control knob set at "coffee." If temperature setting of control does not agree with water temperature, loosen set screw (2) and remove knob (1). Turn adjusting shaft (14) counter-clockwise to increase, and clockwise to decrease, the temperature of the water. When water temperature is holding constant at 185°, replace knob (1) in the "coffee" position and retighten set screw (2).

Other information: Minimum flame adjustment is located under cap (6).

Fig. 31. Model SC. Type: Graduating
water or steam valve

Use: Coffee urns, industrial processes.

Cleaning: Remove cap (3), spring (4) and disc (5).

Calibration: Similar to that of Model GC in Fig. 30. Remove knob (1) by loosening two set screws (2). Turn adjusting shaft, right or left, until desired temperature is under control. Replace knob (1) in position on shaft and retighten screws (2).

Fig. 32. Model 2200. Type: Graduating
Use: Varies from low temperature chicken brooding to the control of temperatures as high as 550°.

Cleaning: Remove four screws (15), two are shown; pull body (16) from housing (18) exposing spring (4) and valve disc (5).

Calibration: Loosen, but do not remove, the two screws (2). If temperature at sensitive bulb (17) is too high, rotate adjusting plate (1) clockwise. If temperature is too low, rotate the adjusting plate counter-clockwise. **CAUTION:** When rotating this plate (1), the piece on which it rests must not be moved.

Other information: The minimum

flame adjustment is made by turning key (12). The pilot flame adjustment is at key (13).

In handling controls:

1. Guard against dirt reaching the control from dirty pipe or other sources.

2. Check installation for proper gas pressure and venting.

3. Check performance at installation. (Is the minimum flame properly set? Is the pilot adjusted properly? Are you getting correct temperature control?)

4. Instruct the user in the operation of the appliance and the control.

5. Keep yourself, and others around you, informed on controls and the appliances on which they are installed. The salesman, as well as the serviceman, should know and understand his product.

We have reached the end of our discussions on controls. I hope that these several points have been made clear—that controls are simple; and that controls are similar. This being true, they should present no real field problem. However, if you need any other information about controls, my company and I will be happy to help you.

NPC Groups Will Study LP-Gas Storage and Supply

Walter S. Hallanan, chairman of the National Petroleum Council, has appointed a 19-member committee to

investigate the feasibility of underground storage for LP-Gas and other refined products. Members of the committee are:

H. S. M. Burns, Shell Oil Co. (chairman); H. T. Ashton, Western Petroleum Refiners Assn.; Rush M. Blodget, Oil Producers Agency of California; William R. Boyd Jr., Boyd, Hardy & Wheelock; Ralph K. Davies, American Independent Oil Co.; E. DeGolyer & MacNaughton; Warwick M. Downing, Denver; J. Frank Drake, Gulf Oil Co.; R. H. Follis, Standard Oil Co. of California; Jake L. Hamon, Mid-Continent Oil & Gas Assn.; Eugene Holman, Standard Oil Co. of New Jersey; Harry Leyendecker, Independent Refiners Assn.; Joseph E. Pogue, Chase National Bank; Sid W. Richardson, Sid Richardson Gasoline Co.; A. S. Ritchie, Wichita; Clarendon E. Streeter, Pennsylvania Grade Crude Oil Assn.; W. K. Warren, Warren Petroleum Corp.; L. S. Wescoat, Pure Oil Co.; W. S. Zehrung, National Petroleum Assn.

Mr. Warren has also been named chairman of another new committee appointed by the NPC to study and report on availability of LP-Gas as well as transportation and materials requirements of the industry. His committee consists of the following men:

Peter A. Anderson, Utilities Distributors, Inc., Portland, Me.; F. B. Down, National Petroleum Assn.; C. F. Dowd, Tide Water Associated Oil Co.; J. W. Foley, Texaco; J. H. Forrester, Stanolind Oil & Gas Co.; B. C. Graves, Union Tank Car; John F. Lynch, LaGloria Corp.; K. W. Rugh, Phillips Petroleum Co.; W. G. Skelly and J. W. Vaiden, Skelly Oil Co.; Joseph Miller, Humble Oil Co.; A. R. Thomas, Shell Oil Co.

Underground Storage for LP-Gas Features NGAA Meeting

The 30th annual convention of the Natural Gasoline Assn. of America, held in Tulsa last spring, was the largest in the history of the organization. There were a total of 1240 delegates registered at the three-day sessions.

John F. Lynch of Corpus Christi, Texas, was elevated to the association's presidency. He had formerly served as senior vice president of the organization. Serving with him will be two new vice presidents: Z. C. Ambrose, Southwest Gas Products Co., Monroe, La., and Ronnie Heath, Signal Oil and Gas Co., Los Angeles. Reelected as vice presidents were F. M. Perry of Cities Service Oil Co., Bartlesville, and Albert H. Weil,

United Gas Pipe Line Co., Shreveport, La. William F. Lowe, executive secretary of the association, will continue in that capacity.

The program arranged by the committee under the chairmanship of W. A. Baden, president, Anchor Petroleum Co., Tulsa, covered a wide range of industry interests and public appeal.

The 1951 Hanlon Award for distinguished service to the natural gasoline industry was awarded Dr. Walter J. Podbielniak of the Chicago firm bearing his name. Past President James E. Pew made the presentation.

One of the principal speakers at the convention, Frank Matheny of



NGAA officers (top, left to right): James E. Pew, retiring president; Frank M. Perry, vice president. Front row: Ronnie W. Heath, vice president; John F. Lynch, new president; Z. C. Ambrose, vice president. Not present is Alfred H. Weil, vice president.



FRANK MATHENY



WILLIAM LOWE

the Sid Richardson Gasoline Co., Fort Worth, told listeners that demands had been met for the "Underground Storage of Liquefied Petroleum Gases."

After describing the numerous successful efforts to store LP-Gases underground in old wells and formations, but in relatively small volume, Mr. Matheny told of the studies and experiments that have been successfully made in storing LP-Gases in salt domes throughout the country.

"In the light of the geographical location of salt beds and salt domes in respect to manufacturing plant locations, transportation facilities, and ultimate markets, it does now appear the nearest approach to an overall solution to the industry's storage, transportation and marketing problems lies in the extensive use and strategic location of these salt section reservoirs," he said.

He described the massive beds and domes that underly the Permian Basin area of west Texas, New Mexico and the Panhandle and the South Hugoton area; in eastern Louisiana, in Mississippi and Alabama, in Michigan, Ohio, western Pennsylvania and New York.

"The time is long past," he said, "for us to consider the LP-Gas in-

dustry as a by-product, a sideline, or a seasonal business. It is now a necessity of life for millions of people and thousands of industries. It is an industry performing a service in which every manufacturer, every jobber and every dealer can take pride in his contributions."

He said the industry is going to save, through underground storage, many dollars in investments while saving for other use untold tons of steel, that the flaring or wastage of these products will be saved and that it will be possible to accumulate product in off-seasons to fill consumer requirements in peak seasons.

NFPA Recommends Changes In Pamphlet No. 58

At the May 7-11 annual meeting of the National Fire Protection Assn. several recommendations were made and some approved for changes and inclusion in the next edition of Pamphlet 58.

The committee on gases has made its report, including such recommendations, in three parts. Part 1, covering standards for the storage and handling of LP-Gases, includes many additions to the use of butane and propane as motor fuels. This was adopted with no dissenting votes.

Part 2, standards for LP-Gas piping and appliance installation in buildings, was tentatively adopted.

Part 3, proposed revision of the standards for installation and operation of gas systems for welding and cutting, was adopted with the provision that the committee revise Par. 36.b of Pamphlet 51 covering standards for the installation and operation of gas systems for welding and cutting. This part will be revised and later submitted to the board of directors for approval.

Associations

Gene Morrison Elected President California Group

At the second annual meeting of the Liquid Gas Dealers Assn. of California, held in Bakersfield May 11-12,



Gene Morrison, new president of the Liquid Gas Dealers Assn. of California, receives gavel from Jim Potter, retiring president, at Bakersfield convention in May.

Gene Morrison, Morrison Orchard Supply Co., Yuba City, was elected president. He follows J. L. Potter, Santa Maria, who has guided the association from its organization to the present time.

A. C. Presley, Sacramento, was named vice president, and Guy B. (Bragg) Legg, Glenbrook Gas Co., Grass Valley, was elected secretary-treasurer.

With approximately 100 California dealers in attendance at the May 11

general meeting and probably twice that many at the field power demonstration the next day, this meeting definitely indicates the interest of California dealers in the progress of this new association and served as an endorsement of the constructive policies and plans which the group has undertaken to better operating conditions in the state.

Among the projects to which the association is dedicated are the obtaining of better insurance rates; cooperation with the California Division of Industrial Safety in establishing an inspection procedure and licensing of dealers throughout the state; an engineering service for members; uniform accounting procedure suitable to LP-Gas operations; and the possible establishment of a showroom where dealers can obtain technical and sales information to improve their operations.

The association is also considering a group hospitalization plan; seeking a means of limiting liability of dealers on unknown or owner-installed installations; and a clearing house of credit information.

Membership in the association has been thrown open to supplymen who will be permitted to come in as non-voting or associate members.

The demonstration of gas-burning tractors, flame weeders, and other equipment on May 12 was attended not only by the dealers but residents of Kern county who had been invited to witness the performances of va-

rious pieces of equipment operated on LP-Gas.

Special credit is due George W. Requa, executive secretary, and the committee on convention arrangements for the entire program, and to those putting on the field demonstrations, including J. W. Guffey, Bakersfield, L. O. McClure, Ensign Carburetor Co., Wilson Engineering & Equipment Co., Sasia & Wallace, Inc., and a dozen other firms which supplied equipment.

General Controls gave a special demonstration on controls and their functions on the evening of May 11. The friendship hour was sponsored by the Manufacturers' section of the Pacific Coast Gas Assn., as was the ladies' program in conjunction with the Southern California Gas Co., of Los Angeles.

Florida

Members of the Florida LP-Gas Assn. met with the Florida-Georgia Gas Assn. at the Hollywood Beach hotel, Hollywood Beach, Fla., on April 19-21 to hear many papers on subjects of interest to LP-Gasmen and natural gasmen, alike.

Speakers and their subjects included: F. A. McFerran, Ruud Manufacturing Co., "Gas Has Got It for Water Heating"; L. L. Peters, American Stove Co., "Looking Ahead in Our Industry"; Roger Stevens, Harper-Wyman Co., "Nothing Equals Gas" (live demonstration); Howard D. White, LPGA, "Washington Report on the LP-Gas Industry"; Claude E. Brock, Encyclopedia Britannica Films Co., industry film; L. F. Worth, Bendix Home Appliance Co., "Promotion of Gas Dryers"; Stanley H. Hobson, Geo. D. Roper Corp., "What We Can Do About It"; John K. Knighton, Servel, Inc., "Gas Re-

frigeration in Today's Market"; and Edwin L. Hall, AGA Laboratories, "Better Appliances by Industry Standard."

Iowa

Over 100 industry representatives gathered in Des Moines for the Iowa LP-Gas Assn. meeting April 2-3. Present were representatives from manufacturers, suppliers, and marketers, the majority of marketers being from Iowa.

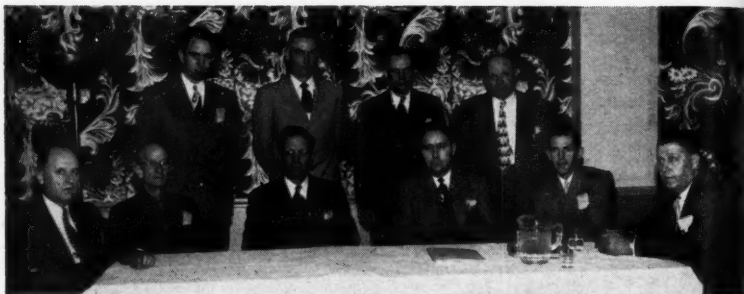
At their regular business session, Iowa members voted unanimously to affiliate with LPGA under the terms of the state integration program. Other business transacted included the establishment of five local districts within the state of Iowa and the election of one director from each of these districts and two at large to serve on the executive board. Officers elected at this meeting were as follows: Charles O. Russell, president, Des Moines; Tom Turner, vice president, Mt. Pleasant; James A. Leach, secretary treasurer, Bettendorf.

The two-day program included discussion of sales promotion, service education, national association and advertising, safety and public relations, and LP-Gas carburetion. It was decided to continue to hold two-day annual conventions and a tentative date was set for the second week in April of 1952.

Illinois

The Illinois LP-Gas Assn. held its first annual convention under the integration plan which was adopted by that organization in May of 1950. Over 150 attended the two-day session which was held in Springfield April 11-12.

The first day was concerned pri-



Officers and directors pictured at Illinois LP-Gas Assn. meeting in Springfield, April 11-12. Seated (left to right): Stan Beske, Chicago; F. L. Malan, Salem; Roy Fancher, Skokie; Glenn Hall (vice president), Onarga; Tom Ennett, Rockford; A. J. Woelfle (president), Bloomington. Standing: J. Friedman, Alton; Andrew Urban, Belleville; Herbert Goble, Casey; John Szilogyi, Westville. Not in picture: G. W. Chapman (secretary-treasurer), Chester, and Russell J. Potter, Canton.

marily with sales and sales promotion methods pertinent to the industry in Illinois. The second day was devoted to subjects of adequate consumer storage, local level advertising, and LP-Gas for carburetion. Several LP-Gas carburetion companies exhibited their systems at the convention.

Nominating Committee Set Up

The board of directors decided to change the method of electing officers for the association by having the current president, A. J. Woelfle, appoint a nominating committee who will select the candidates for the directorship, and the vote will be taken by ballot by mail.

Membership since integration with LPGA has increased 50% in the Illinois association, and members attending this meeting expressed real satisfaction under the new program. Current officers of the association are: A. J. Woelfle, president, Bloomington; Glenn Hall, vice president, Onarga; G. W. Chapman, secretary-treasurer, Chester.

Louisiana

Fred LaFortune, Warren Petroleum Corp., Tulsa, traced the growth of LP-Gas as a business to one of the largest fuel industries in the United States in a talk before members of the Louisiana Butane-Propane Institute held in New Orleans April 21. He showed that the total sales volume in 1928 was 4,523,000 gals. and that the estimated sales in 1950 were 3,333,000,000 gals.

In an address on "What's Going on in Washington," Art Kreutzer, secretary of the National LPGA, discussed the effect the war is having on manpower, money and materials. Keith Jones, director of the Louisiana LP-Gas commission, brought a report pertaining to education of employees. He announced plans for a three-day school to be held for LP-Gasmen at Louisiana State University in Baton Rouge, July 9-11.

Walter Hanau, of the Fidelity & Casualty Co. of New York, discussed "Insurance Coverage of the LP-Gas Industry." Association reports were given by Victor LaGrange, treasurer,



KEITH JONES



WALTER HANAU

and Jack Gould, who discussed the public relations program sponsored by the Institute.

New directors elected include: Louis Abramson, Walter Bogan, Frank Robinson, Drozan Miller, Bob Bailey, John W. Ward, Max Dover, and Quentin Jones. Frank Robinson, president of the group, presided at all meetings.

Maryland

Newly elected president of the Maryland LP-Gas Assn. is Don Boesch, The Partlett Gas Co., Waldorf.

He succeeds W. H. Vester, outgoing president.

New England District

Officers elected at the April 10 meeting of the Liquefied Petroleum Gas Assn. of New England, in addition to Frank B. Mehaffey (see BUTANE-PROPANE News, May, p.188), include Robert Sahagen, R. B. Sahagen Co., Rochdale, Mass., treasurer; and Walter Scott, C. H. Ackerman Co., Newton, Mass., clerk.

Vice presidents and state directors: Massachusetts, Plumer E. Pope (outgoing president), Plumer E. Pope Co.;

Connecticut, R. H. Poe, Northeast Utilities Equipment Corp.; Maine, L. H. Holman, Utilities Distributors, Inc.; Rhode Island, Arthur Mason, East Greenwich; Vermont, Donald Monier, Monier's Home Utilities; and New Hampshire, Beland Peirce, Orvel Peirce Co.

Lou Davis is executive secretary of the organization.

Ohio

By James K. Gillam

At the annual convention of the Ohio Liquefied Petroleum Gas Assn. held April 25-26 in Columbus, Lyman Adams, Ideal Gas Service, Wooster, was elected president for the coming year. Other new officers are Joseph Hogan, Hogan's Gas & Appliance, St. Marys, vice president, and Harold E. Brumby, Suburban Gas & Appliance, Canton, secretary-treasurer. Mr. Brumby was a former president of the association.

The early part of the meeting, held at the Hotel Fort Hayes, was presided over by George W. Gray, Cincinnati, outgoing president.

The speakers at the well-attended meeting included: C. Gobrecht, Shell Oil Co., who spoke on "Safety Practices of LP-Gas"; H. S. Leech, Ruud Manufacturing Co., whose subject, "Gas vs. Electric Water Heating," gave LP-Gas dealers many useful arguments for their sales efforts on LP-Gas water heaters; George J. Schulte, Jr., assistant director of the LP-Gas promotion campaign, whose subject was "Keep the Blue Flame Burning."

Plans for the participation of the Ohio organization in the Ohio state fair were set forth at a business session, at which time it was decided to take a large booth at the fair. A



Officers of the Ohio LP-Gas Assn., seated (left to right): Lyman Adams, newly elected president, and Harold E. Brumby, new secretary-treasurer. Back row (left to right): Arthur C. Johnson, trustee; George W. Gray, outgoing president; E. E. Opdyke, trustee, and Joseph Hogan, vice president.

special committee was appointed to work out the details.

On the second day of the meeting a demonstration of gas vs. electricity was presented by Harper-Wyman Co., which showed the superiority of an LP-Gas range over an electric model. A film from the Underwriters' Laboratories followed.

Arthur C. Johnson, A. C. Johnson & Son, Fremont, was chosen northwestern district trustee and E. E. Opdyke, Opdyke Bottle Gas, South Zanesville, is trustee for the southeastern district.

A cocktail hour, banquet, and floor show were features of the social side of the convention.

South Dakota

Millard Kiel, Highmore, S. D., was elected president of the South Dakota

LP-Gas Assn. recently. Mr. Kiel, formerly vice president of the group, succeeds Martin A. Steinlicht.

Other officers include P. O. Prottollo, Howard, vice president; Grant Williams, Milbank, secretary-treasurer; and George Batchelder, Huron, executive secretary.

Association members, meeting at the Marvin Hughitt hotel in Huron, voted to continue the co-sponsorship, with the state university, of an educational program which was inaugurated last year.

West Coast Meeting

At the July 13 meeting in San Francisco of the LPGA, hosts will be Gene Morrison, new president, and George Requa, executive secretary, of

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AMERICAN
PIPE and STEEL
CORPORATION

Essential ★
Defense Needs

Your LP-Gas ★
Storage Needs

Now we're working for 2 bosses!

AMERICAN has been requested to direct more of its facilities to the preparedness program. And some materials are unavailable for many products.

But we know that the LP-Gas requirements of your customers are important

too. And we're making every effort to keep up with *both* needs—yours and your country's.

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PIPE & STEEL CORPORATION

Manufacturers of storage and transport tanks for the LP-Gas Industry
2201 W. Commonwealth Ave., Alhambra, Cal.
Cable Address: AMPSTEEL
U.S. Hwy 99 & Casa Loma Dr., Bakersfield, Cal.



The speakers' table at the banquet of the Mississippi LP-Gas Assn. meeting April 3 (left to right): T. R. Ewing, director; John Allen, director LP-Gas division office of Motor Vehicle Comptroller; Preston Burt, director; Mrs. Charles Corken, Charles Corken, speaker; Duke Sweeney, chairman convention committee; H. H. Whitworth, secretary-treasurer, Mrs. Whitworth; Jeff Williams, speaker; Mrs. Lewis Graeber, Lewis Graeber, president; Mrs. Percy Magee, Percy Magee, vice president; Mrs. Jack Grundfest, Jack Grundfest, director; Mrs. K. W. Rugh, K. W. Rugh, speaker; John A. Grice, Mrs. Grice; Dewey S. Dearman, director.

the California Liquid Gas Dealers Assn. Meeting place will be at the Western Merchandise Mart and dealers from California, Arizona, Idaho, Oregon, Nevada, Utah, and Washington are invited to attend.

The varied program for the one-day meeting will include talks on "Meters and Dealer Losses" by J. E. Brenton and Daniel C. Perkins of the California Bureau of Weights & Measures, and "New LP-Gas Tank Fittings," by Mel Lewis, General Controls Co.

GAMA

At a general session on April 16, during the annual meeting of GAMA in Chicago April 16-17, Louis Ruthenburg, chairman of the board of

Servel, Inc., was elected president. He will succeed Frederic O. Hess, Selas Corp. of America.

Other newly-elected officers include A. B. Ritzenthaler, Tappan Stove Co., first vice president; James F. Donnelly, A. O. Smith Corp., second vice president; Lyle C. Harvey, Affiliated Gas Equipment, Inc., treasurer; and H. Leigh Whitelaw, managing director of GAMA, secretary.

All officers will take office Oct. 1.

Gene Bumpus Named Pres. Texas Butane Assn.

At the sixth annual convention and trade show (and the first annual Southwestern Butane Exposition) of the Texas Butane Dealers Assn., held in Fort Worth June 13-15, Gene



Bumpus, Plainview, was elected president for the coming year. Other officers are:

U. C. Roney, Corsicana, John Wolf, Wichita Falls, Joe A. Farrar, Waco, and J. H. Winton, Beaumont, vice presidents. Gus J. Moos, Austin, was reelected secretary-treasurer, and William J. Lawson was reelected executive secretary.

Newly-elected directors are W. M. Shattuck, Alta, District 1; H. O. McElveen, West Columbia, District 3; J. A. Farrar, Waco, District 7; Emmett Godfrey, Arlington, District 9; G. D. Fraley, Sweetwater, District 11; Glen Cope, La Mesa, District 13; T. B. Cox, Hart, District 15. Directors at large include Dillard Peek, Clarksville; H. P. Pittman, Bryan; U.C. Roney, Corsicana; and R. N. Burchard, Pecos.

Joe McKim Heads Arkansas Butane Dealers

Joe McKim of Springdale, Ark., was elected president of the Ar-

kansas Butane Dealers Assn. in Little Rock June 11-12, succeeding Amos David, of Caraway, Ark., who became chairman of the Regional Directors Committee.

Other officers elected at the closing session of the organization's annual two-day convention were: Arthur Olsen, Blytheville, first vice president; Floyd Starnes, El Dorado, second vice president; Harold Vise, Jonesboro, third vice president; and Otis S. Cash of Warren, Paul DeClerk of Pocahontas, Robert Remy of Booneville, Russell Evans of Yellville, L. L. Rambo of Clarksville, Jack Treece of Marshall, H. G. Elliott of Hot Springs and R. C. Weis of Brinkley, members of the board of directors. Johnnie Porter is executive secretary.

Speakers included Ralph G. Elliott, Ensign Carburetor Co., McKinney, Texas; Forrest N. Hall, Chambers Range Co., Dallas, Texas, and John M. Powell, superintendent of the Arkansas Foundry Co., Little Rock.

**THERE, FOR MY
MONEY, IS THE FINEST
SELF-POWERED
CONTROL SYSTEM ON
THE MARKET!**



**RIGHT! YOU
CAN'T MATCH THE
HONEYWELL POWERPILE
FOR COMFORT AND
DEPENDABILITY!**

MINNEAPOLIS
Honeywell

First in Controls

E. E. Hadlick Resigns From Natl. Butane-Propane Assn.

E. E. Hadlick, for six years executive vice president of the National Butane-Propane Assn., handed his resignation to the directors at the June 12 quarterly district meeting in Fort Worth. Pressure of personal interests outside the association required the move.

In a special meeting of the board of directors, following this resignation, a special resolution was passed commending Mr. Hadlick for his long and successful service to the association and to the bulk plant operators which compose the membership. Included in the resolution was a statement to the effect that the organization would continue to build on the foundations laid down at its first meeting which provided for limiting the membership to bulk operators and maintaining an association service for them that would meet their varied requirements.

For the time being the headquarters office of the association will be 45 So. Stevens St., Rhinelander, Wis., in care of Charles Grau, The Onigas Co. Mr. Grau is currently president of NBPA.

Gas Ranges Need Thermostats To Get AGA Approval

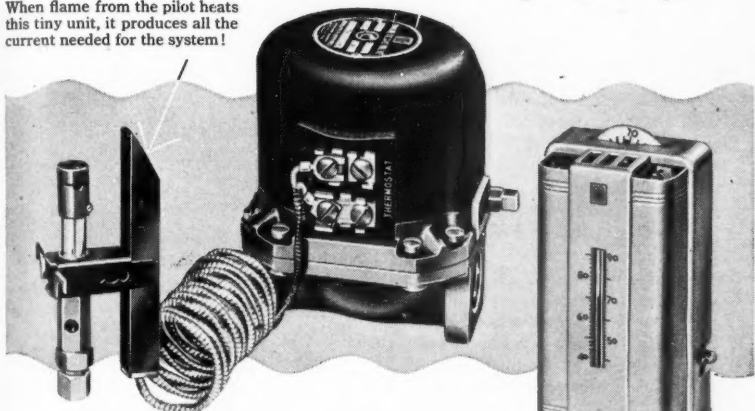
Thermostats must now be incorporated in all domestic ranges in order to obtain the approval of the American Gas Assn., according to a recent announcement by the organization.

Approval has been withdrawn on ranges currently being manufactured without thermostat equipment, but subject to the manufacturers' existing contractual obligations.

Meet the Honeywell Y200 Powerpile* System

—designed for all gases

When flame from the pilot heats this tiny unit, it produces all the current needed for the system!



Helps boost your gas sales!

Helps boost heating equipment sales!

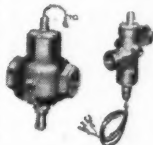
Now—all your customers and prospects can enjoy the comfort and convenience of automatic heating—thanks to the Honeywell Powerpile. This remarkable device is completely self-powered—needs no house current. It can be used in non-electrified areas and wherever electric supply is undependable!

The Powerpile is silent—quiet as the flame which powers the system. And it is versatile—works equally well with gas-fired space heaters, floor furnaces, wall-type heaters, individual radiators, boilers and furnaces.

The Y200 includes the T804B Heat Leveling Thermostat, the VS887A Diaphragm Valve, the Q182 Powerpile, vent tubing, wire and staples—ready to install. Each unit has all the

fine-quality construction that made Honeywell First in Controls. One of the pilotstats below should be used in L. P. installations.

Yes, this is a major profit opportunity—so start now to cash in! For complete information, call your local Honeywell office. Or write Honeywell, Dept. BN-7-100, Minneapolis 8, Minnesota.



CS542 and CS543 Pilotstats above have been specially designed for use with L. P. gases. Made to operate on the output of the Honeywell Powerpile. They shut off gas flow to main burner and pilot in event of pilot flame failure.

MINNEAPOLIS Honeywell

First in Controls

*Reg. T. M.

Defense Planning Was LPGA Theme

By Paul Lady.

1951 LPGA OFFICERS

President—W. S. Lander, Rulane Gas Co., Charlotte, N. C.

1st Vice President—F. N. Mabee, Colorado Natural Gas & Fuel Co., Denver.

2nd Vice President—C. M. Ambrose, Jr., Liquefied Petroleum Gas Corp., Seattle.

Treasurer—Walter H. Miller, Dri-Gas Corp., Chicago.

Executive Vice President—Howard D. White, Chicago (reappointed).

Vice President & Counsel—A. C. Kreutzer, Chicago (reappointed).

LPGA DISTRICT DIRECTORS

- 1 C. M. Ambrose, Liquefied Gas Corp., Seattle.
- 2 *Ernest Fannin, Fannin's Gas & Equipment Co., Phoenix.
- 3 F. N. Mabee, Colorado Natural Gas & Fuel Co., Denver.
- 4 *E. L. Mills, The Bastian-Blessing Co., Chicago.
- 5 Louis Abramson Jr., Petrolane Gas Co., New Orleans.
- 6 *Hermann Paris, Georgia Automatic Gas Co., Atlanta.
- 7 Walter A. Naumer, Pyrofax Gas Co., New York.
- 8 *R. W. Johansen, Sturdie Propane, Lethbridge, Alberta.
- 9 W. Walsh, Liquefied Gas Utilities Ltd., Lachine, Quebec.
- 10 *Don Antonio S. Ortiz, Comisionistas de Chihuahua, Chihuahua, Mexico.

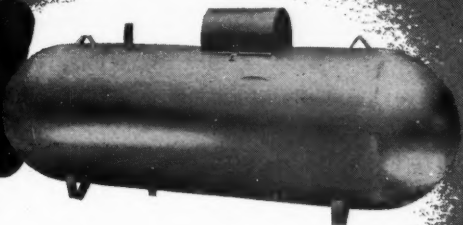
*Newly Elected

IN ADDITION to the election of executive officers (see June BUTANE-PROPANE News, p. 175) the LPGA convention-goers who attended the annual convention and trade show in Chicago, May 7-10, elected the accompanying district directors, state directors, and section chairmen.

Space and time limitations did not permit publication of abstracts



This convention group (left to right) shows Walter Miller, treasurer; Howard D. White, executive vice president; W. S. Lander, newly elected president; Art Kreutzer, secretary, and Foster Mabee, first vice president.



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McNAMAR

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McNamar's high standard of quality in fabrication is your assurance of the finest Domestic LPG systems available. You can get McNamar tanks in 115, 250, 325, 500 and 1000 gallon sizes. Be sure to specify the finest — Ask for McNamar.



McNamar Boiler & Tank Co.

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of the many important and enlightening papers presented at the meeting. Several appear herewith:

Petroleum and Defense

Urging restraint on the part of industry members in their approach to today's fuel problems, James E. Pew, Sun Oil Co., Philadelphia, past president of the NGAA, and a member of the Petroleum Administration for War during World War II, outlined the necessity for united effort by the LP-Gas industry.

He said that under the setup in Washington (the Petroleum Administration for Defense), the industry would receive proper recognition by those in charge because they would be familiar with the supply of product and the requirements for transporting and marketing. The utmost cooperation must be given the man who will eventually head this division. Requests should be made as a group whenever possible.

"We should do all we can to keep the industry free from controls," Mr. Pew said. "The present emergency can bring controls if we do not make a united effort to work out our problems without them."

Mr. Pew discussed the importance of adequate planning for customers' needs by dealers. The history of the industry shows that many dealers fail to prepare for the demands of customers and in many cases have oversold their capacity to deliver.

"If we as an industry are to care for the welfare of the inhabitants of over seven million homes in this country, we cannot shirk this responsibility and long remain unregulated. In practically every case where shortages were encountered in last year's cold winter, the lack of storage either

1951 SECTION CHAIRMEN

Marketers—Walter A. Schuette, Hausgas, Inc., Washington, Mo.

Appliance Manufacturers—George H. McFadden, Ohio Foundry & Manufacturing Co., Steubenville, Ohio.

Equipment Manufacturers—Fred A. Henninger, Charlotte Tank Co., Charlotte, N.C.

Producers—H. W. Rigterink, Sun Oil Co., Philadelphia.

Utilities—Charles E. Tenney, Willmar Gas Co., Willmar, Minn.

International—W. M. Bonnell, Tappan Stove Co., Mansfield, Ohio.

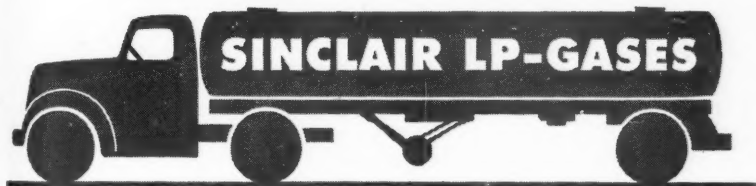
at the consumer's or at dealer's bulk plants, or a combination of both, was the cause."

Dealer-Manufacturer

Effective teamwork between all branches of the LP-Gas industry in order to provide the consumer with excellence of service in a highly technical field was urged by T. R. McElhinney, vice president of the Dri-Gas Corp., Chicago.

Categories in which manufacturer and dealer may join hands to promote the growth of the industry on a sound foundation were listed by Mr. McElhinney as: (1) Manufacturers' sales and service manuals; (2) larger storage tank sales; (3) standardization of parts and fittings; (4) development of new applications and informational material; (5) provision of information on new or improved safety measures; (6) drafting and revision of governing codes; (7) cooperative advertising and promotion; (8) manufacturers' consignment

What makes these Vehicles so much ALIKE?



It's the "stowaway" that rides in every shipment of SINCLAIR LP-Gases from the refinery to the consumer. Packed into SINCLAIR LP-Gases is a Hidden Ingredient composed of important things like INTEGRITY, REPUTATION, RESPONSIBILITY, PERFORMANCE, and REAL SERVICE.

That is why consumers call for Sinclair LP-Gases. They know they get products of the highest heating value, expertly refined, with all moisture and impurities removed.

SINCLAIR

A Great Name in Oil

SINCLAIR OIL & GAS COMPANY

LIQUEFIED PETROLEUM GAS DIVISION • SINCLAIR BUILDING, TULSA, OKLA.

plans; and (9) support of state and national trade associations.

"The greater size of the equipment manufacturer in relation to the dealer carries with it the responsibility to provide a heavy portion of the total LP-Gas industry research and technical development," Mr. McElhinney said. "With this goes preparation of installation and service manuals, trouble-shooting procedures and fully illustrated catalogs."

The speaker emphasized a need for standardization and criticized the practice of shipping a variety of fitting sizes and shapes from one time to another with otherwise identical equipment. Over one hundred different trinkets, fittings and gadgets must be stocked at the average dealership to handle the installation and servicing of various products.

Better Appliances Through National Standards

The history and standards of LP-Gas appliance and equipment testing by the American Gas Assn. Laboratories was outlined by K. R. Knapp, assistant director of that organization.

A few years after the establishment of the AGA Testing Laboratories in 1925 the increasing use of LP-Gas for household purposes (notably cooking at that time) brought about the need for expansion requirements to cover both LP Gas and LP-Gas-air mixes, according to Mr. Knapp.

Investigation and research dealing with the performance of typical equipment operating on the new fuel were made, test procedures established and in 1933 additions were made to gas range requirements covering the use of LP-Gas and air-mix. Similar additions covering central

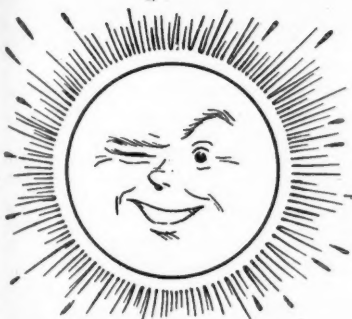
1951 LPGA STATE DIRECTORS

Alabama—Victor T. Mavity
Arizona—Ernest Fannin
Arkansas—R. J. Dodson*
California—C. L. Parkhill
Colorado—F. N. Mabes*
Connecticut—Howard S. Rowan*
Florida—A. W. Spiller, Jr.
Georgia—Fred A. Rives
Idaho—L. V. Rothrock*
Illinois—Walter H. Miller
Indiana—Joseph Crowden
Iowa—Charles O. Russell
Kansas—G. M. McClellan
Kentucky—Melvin E. Gayer*
Louisiana—R. D. Phillips*
Maine—Peter A. Anderson*
Maryland—C. J. McAllister*
Massachusetts—Plumer E. Pope*
Michigan—Lou Marshall
Minnesota—Steve Fligelman
Missouri—K. H. Dickson
Montana—D. O. Mecklenberg*
Nebraska—L. R. Forsyth
Nevada—W. W. Dudley
New Hampshire—Orvel Peirce*
New Jersey—H. Emerson Thomas*
New Mexico—O. L. Garretson*
New York—Louis Seley*
North Carolina—M. L. Bailey
North Dakota—E. M. Levi
Ohio—Walter F. Verkamp
Oklahoma—G. L. Brennan*
Oregon—James O. Yeomans*
Pennsylvania—L. F. Finkler*
Rhode Island—F. J. Armbrust*
South Carolina—John W. DuRant
South Dakota—Martin A. Steinlicht
Tennessee—W. G. Petty*
Texas—Milton J. LaDue, Jr.*
Utah—J. H. Reese
Vermont—Donald K. Monier*
Virginia—E. O. N. Williams*
Washington—Glen Fansler*
West Virginia—C. Wade Gibson*
Wisconsin—Harris J. Helmer
Wyoming—Talmadge Lovejoy*

* Newly elected.

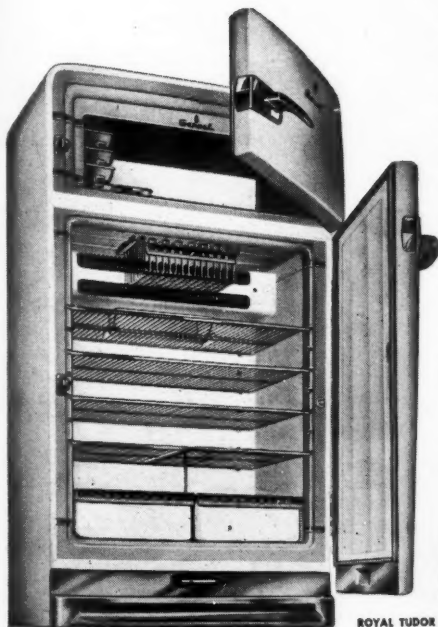
heating, counter appliances and clothes dryers later followed.

Standards for LP-Gas call for two individual test gases, propane and butane, with heating values of 2500 and 3175 Btu per cu. ft., respectively. Since the burning characteristics of butane are the most severe of the



*Make this Summer
your hottest
Selling Season*

Sell the Great New Servel



Hot weather will make warm friends and important sales for you this year with the spectacular new Servel. This incomparable refrigerator can really make sales history now, when summer heat and mechanical refrigerator breakdowns are making people replacement-minded. The new Servel is actually one-third bigger inside, yet needs no more space outside. And what's more, Servel's marvelous, motorless freezing system has a 10-full-year warranty!

The magnificent Royal Tudor is truly the last word in modern refrigeration. Standard bearer of all eight new Servel models, it has a huge 11.5-cu.-ft. capacity . . . a separate 2-cu.-ft. freezer compartment and a 9½-cu.-ft. space for other foods. Homemakers will be sold by its feather-touch Bulldog Latches that click themselves shut . . . twin Dew-Action Vegetable Fresheners, glass-covered for easy visibility. Quick-Change shelves solve the problem of large bulky-food storage.

With the Royal Tudor and the other seven marvelous new Servels, you have a model for any size kitchen, any size family. So take advantage of the wide-open summer market to sell the world's finest refrigerator—the matchless new Servel. For suggestions write Servel, Inc., Dept. M-17, Evansville 20, Indiana.



ROYAL TUDOR (Model BR-1118)

two gases, it is used in all instances where approval for "LP-Gases" is desired.

In the few instances when the equipment cannot pass tests using butane but performs satisfactorily on propane—approval for propane gas only may be given.

Normal pressure specified is 11-in. water column at the appliance. This pressure is employed to establish the



Awaiting an important message are R. E. Hustead, Denver Propane, Denver; Melvin Gayer, Webb Gas Co., Warsaw, Ky.; and Hermann Paris, LPGA vice president.

rating of the appliance. With no change in rating, pressures are varied to a minimum of 8 in. and 13 in. maximum. The variation simulates extremes expected to occur in service and is considered comparable to those of city gases.

LP-Gas requirements specify the same rigid performance features involving safety as city gases. LP-Gases are used in conducting combustion, burner, and pilot operating characteristics. A top burner efficiency of 50% is required instead of 40% for city gases.

Other performance features, such as wall and floor temperatures, oven and broiler heating speed, temperature distribution and thermostatic regulation, are unchanged from the requirements for city gases.

A limited number of constructional features requiring special consideration have been specifically noted as necessary to approval. Principal among these is the requirement for use of automatic pilots of the type effecting complete shut-off of both the main gas and pilot supply in the event of failure of the automatic device. Shut-off of the main gas supply only is required in city gas usage. The high gravity of LP-Gas necessitates provision of the feature to insure against the escape of unburned fuel which might collect near the floor, according to Mr. Knapp.

Washington Scene

Howard D. White covered the Washington scene from the standpoint of the LP-Gas industry. He assured the group that their industry is receiving more recognition in Washington than in past years. "The industry is sure to feel the impact of government controls because of the many restraints that will be put on metals such as steel, copper, brass, etc. There can be no doubt that our operations will be curtailed and that it will take our fullest resources to maintain equipment at a fit level of service and safety."

Since no fuel is more flexible in an emergency than LP-Gas, Mr. White feels that great new demands will be placed upon it during the period of defense construction. Additional use of the fuel on the farm for many agricultural uses as well as power for trucks and tractors and the use of LP-Gas as an emergency fuel in case

You Wouldn't Go to a VET. for your TOOTHACHE...



B

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Butane Gas Insurance
Specialists
in 7 States

Have your local insurance agent write for information about our . . .

- Complete and comprehensive coverage . . . for
- adequate limits of liability . . . at
- normal rates . . . with
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* RATES ESTABLISHED BY YOUR OWN STATE INSURANCE DEPARTMENT



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T. E. GAMMAGE, SR., President • HOME OFFICE 4001 TRAVIS STREET, HOUSTON, TEXAS

of attack, are but a few of the many vital uses which make it an important national problem.

Promotion Program

Lee A. Brand, chairman of the National Committee for LP-Gas Promotion, reviewed the progress of the nationwide advertising program now being carried on. He urged all sections of the industry to get behind the drive. At the beginning of its second year, it has proved highly successful and has achieved its principal aims.

Mr. Brand showed typical advertisements from the first three rounds of ads and displayed copy for the fourth round, now under way. He also exhibited an impressive display of tie-in advertising materials made available to dealers and representative publicity clippings. The fourth round of ads will appear in 50 national, sectional and state magazines with a total circulation of over 34,500,000, he said.

Five District Meetings Held By LPGA in California

Five evening meetings were held early in June in California for members of District 2 of the Liquefied

Petroleum Gas Assn. Principal speaker at the gatherings was Howard D. White, executive vice president of the LPGA and now representing the association in Washington, D.C.



HOWARD WHITE

Mr. White's talk dealt with

the present situation in Washington, D. C., and how government controls will affect the LP-Gas industry. He pointed out that allotment of material for the industry now falls under the National Petroleum Authority (NPA), with the Petroleum Administration for Defense acting as the claimant agency for the industry. At the present time an appointment is being considered for the man to head up the section in PAD that will pass on the needs of the LP-Gas field.

The general picture which Mr. White painted of the future situation as far as materials are concerned was not too encouraging. He pointed out that when controls went into general effect the first of July, there would definitely be a shortage of materials for many items—both appliances and equipment.

There is still much to be decided as to the general allotment of all types of material and there may be cases where the supply will be greater than is now anticipated.

The office of the LPGA in Washington is working constantly to keep the LP-Gas industry in front of the policymakers in Washington. A great deal of progress has been made and the industry is being recognized for its true worth as an important part of national defense.

Mr. White urged that all members of the industry place their problems through the LPGA office when possible and assured his listeners that every consideration would be given to these matters by the Washington office.

There was an excellent turnout of industry members at all five California meetings, which were held in Los Angeles, San Diego, San Bernardino, San Luis Obispo and Berkeley.

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**Special for LP
Appliance buyers**

**MODEL
104**

Here's a range LP dealers can sell at a low (LOW!) Price . . . and make high (HIGH!) profits on . . . Odin's New Model #104. Note the features . . . Then order your requirement!

- * Full 38" Range
- * "Daylike" Baking (Ass in oven door)
- * Protecto wall backguard with fluorescent light and electric timer clock
- * Electric light in oven
- * Chrome hardware and trim
- * Robertshaw oven heat control

Complete advertising service available.
Write or phone for full details.



Other famous ODIN Beautyrange Models for LP include:



**DELUXE MODEL "A1164
"SIX BURNER-DOUBLE OVEN"**

**DELUXE MODEL "A1302
"HI-BROILER"**

**DELUXE MODEL "3105
"DELUXE 30"**

**DELUXE MODEL "A1107
"LOW BROILER"**



ODIN *Beautyrange*

"The gas range that has everything"
ODIN STOVE MFG. CO. ERIE, PENNSYLVANIA



API's Special LP-Gas Session Reveals Vital Industry Trends

**A digest of convention papers emphasizing
the part LP-Gas will play in mobilization**

SIGNIFICANT facts on national trends in production, distribution, storage and power conversion, which indicate the prodigious growth of the LP-Gas industry since World War II and emphasize its capacity for continued expansion, were presented at the special LP-Gas session of the American Petroleum Institute's division of refining at Tulsa, April 30-May 3.

Underlying several presentations and papers made available to convention-goers was the strong belief that LP-Gas power applications would materially aid in the conservation of petroleum resources and that the petroleum industry should encourage this power application as a part of its overall mobilization program.

Howard E. Felt, vice president of Warren Petroleum Corp., Tulsa, in a discussion of the progress of LP-Gas distribution since 1946, pointed out that the sale of LP-Gas (for all purposes) immediately following the last war indicated that the potential expansion was limited by production and facilities for distribution.

LP-Gas Distribution



HOWARD FELT

"The experience in the wake of the severe winter just past has convinced the industry's leaders that the problem of transportation and the number of bulk plants are secondary to storage in the major facilities required for successful expansion of distribution," Mr. Felt said.

He told listeners that while the industry, for the most part, has developed the capacities to handle the year's estimated volume, it hasn't provided sufficient margin to take care of extremes. He said that the "major storage facilities" problem "might be near solution."

Most of the storage of LP-Gas in the past five years has been steel tanks suitable for the pressures involved. In a few cases it has been found possible to store excess butane in depleted oil and gas sands near manufacturing plants, but recovery is difficult to measure and the prod-

net has to be rerun to be brought back to specifications.

Propane had been stored in water sands, such as in the project of the Chicago Corp. at Carthage.

"Last year new vistas of underground storage were opened by the simple process of washing out a reservoir in salt domes or beds through circulation of water," he disclosed. Warren Petroleum successfully constructed an underground cavern of approximately 1,050,000-gal. capacity at its Breckenridge, Texas, plant by sinking a shaft through a limestone cap rock and removing a stratum of shale.

It was pointed out that these reservoirs can be constructed at a cost varying between \$2.50 and \$1 per barrel (roughly 42 gal.) depending upon size and geological conditions. "It is obvious what this development means in the maximum distribution of the annual production of LP-Gas when you compare these figures with the \$20 per barrel cost for steel storage."

Since this type of storage is adaptable to large manufacturer's operations, steel tank facilities would still be essential at bulk plants and customers' premises.

LP-Gas Production, Reserves



R. C. ALDEN

R. C. Alden, Forrest E. Gilmore and Paul W. Tucker, all of Phillips Petroleum Co., Bartlesville, Okla., presented figures which will be reassuring to those who have questioned the petroleum industry's capacity to keep

up with continued expansion and increase of sales within the LP-Gas industry.

The authors pointed out that "the total liquefaction of liquefied petroleum gas is estimated to have increased from 165,000 bbl. per day in 1940 to 668,000 bbl. per day in 1950. The uses in 1950 were 168,000 bbl. per day for butanizing motor fuel, 262,000 bbl. per day as refinery conversion stocks, and 238,000 bbl. per day to sales.

"The annual rate of growth of the liquefaction of LP-Gas has been about 15%. Of the three uses cited, the two refinery uses are in approximate equilibrium with the 6% rate of growth in production of gasoline. However, the sales of LP-Gas have been increasing 26% annually.

"An analysis of the individual markets for LP-Gas shows that all but one of the markets have been increasing at a lesser annual rate than 26% in recent years. The use of LP-Gas for power purposes is the exception.

"More than half of the butanes and propane available in current refinery operations are being liquefied, whereas less than a fourth are being liquefied in current natural gas operations. It is estimated that 739,000 bbl. per day of additional quantities could have been liquefied in 1950. In the 1950 U.S. petroleum reserves there was potentially 0.9 gal. of LP-Gas for every gallon of gasoline.

"With suitable market incentives, such as the current rapidly increasing power uses, there is every reason to believe that LP-Gas production will continue its past high rates of growth. Such a development would be a substantial step in conserving liquid fuel supplies and, if sufficiently accelerated, could be an important

phase of the mobilization program of the oil industry.

"In any event, the sales of LP-Gas have attained a size where future growth, even at less than past rates, will have substantial repercussions on all phases of the industry. If the 26% rate of growth is maintained, in 1951, it will mean a new supply of liquid fuels of 62,000 bbl. per day, which is the equivalent of a large, new oil field or a large new refinery.

"Perhaps the most significant fact developed in these studies is the very large supply of LP-Gas potentially available in our reserves of crude oil and natural gas. The fact that the potential availability of LP-Gas appears to be approaching equality with gasoline is of great significance. Spread over a 15-year life of the reserves, the LP-Gas potential is at the rate of about 2,600,000 bbl. per day, of which less than 6% would be needed for butanizing gasoline.

"These very large potential supplies of LP-Gas—if, as, and when liquefied and thus diverted from gaseous to liquid fuel markets—will have very pronounced influences on the entire petroleum industry, and will substantially alter the future requirements for crude-oil production and refining and for the transportation and marketing of petroleum products."

Fuel Comparisons

The continuance of the trend toward use of LP-Gas as a bus and truck fuel was forecast by Eugene S. Corner of the Standard Oil Development Co., New York, and E. H. Berg of Esso Standard Oil Co.

Statistics and estimates prepared by the authors indicate that LP-Gas can amortize the cost of conversion equipment and storage facilities on a short-term basis with fuel cost dif-

ferentials running between 1 cent and 3.5 cents per gallon. Therefore, conversions of truck and bus fleets are attractive economically at current delivered price differentials of 3.5 to 6 cents per gallon. Compression ratios of 10:1 were recommended on both converted and new engines.

Figure 1 shows the break-even price of propane, compared to gasoline, when the compression ratio is raised to the recommended 10:1 to take advantage of its higher octane rating. With the standard gasoline engine compression ratio of 6.5:1 LP-Gas is only 80 to 90 per cent as efficient as the fuel for which the engine was originally designed.

The authors indicated that "at current price levels, propane is competitive with diesel fuel under a short-term amortization of storage facilities only where it is available at a minimum cost and where the total tax levied on diesel fuel is approximately equal to that on propane. However, propane can become competitive with diesel fuel under other conditions, as follows: (1) A ten-year amortization period for storage facilities; (2) Reduced storage-facility costs because of a provision for less than 15 days' fuel requirements."

It is possible that these did not reflect a completely accurate comparison between the two fuels, however. The authors noted that the comparative recency of LP-Gas' service in the power field had produced no authoritative figures on "longer engine life."

In addition to this, there were marked discrepancies in figures quoted on costs through both gasoline and diesel engine lubricating oil consumption. Both engines were said to use one quart of oil per 150 miles in city, inter-city and long-haul trucking operations. It is a matter of



Busiest heating man in town!

Wherever some wise LP-Gas Dealer has set out to sell home heating by promoting Bryant gas equipment, it's usually not long before he is making more installations than he ever thought possible.

He features the most complete line of gas home heating equipment in the nation. Big seller, too, is his line of Bryant Automatic Water Heaters, specially designed for LP-Gas operation.

Inquiries produced by Bryant's national advertising give him hot prospects. A co-operative plan permits effective localized advertising. Engineering assistance is his through the Bryant Distributor, who in turn is backed by an expert factory staff.

Like to be the busiest heating man in *your* town? Certain territories hold opportunities for those who can do the big-time job.

See your Bryant Distributor or write Bryant Heater Division, Dept. 246, Affiliated Gas Equipment, Inc., 17825 St. Clair Ave., Cleveland 10, O.



Your single source of supply for everything in gas heating equipment!

(10 PER CENT HIGHER BTU EFFICIENCY ON PROPANE
THAN ON GASOLINE)

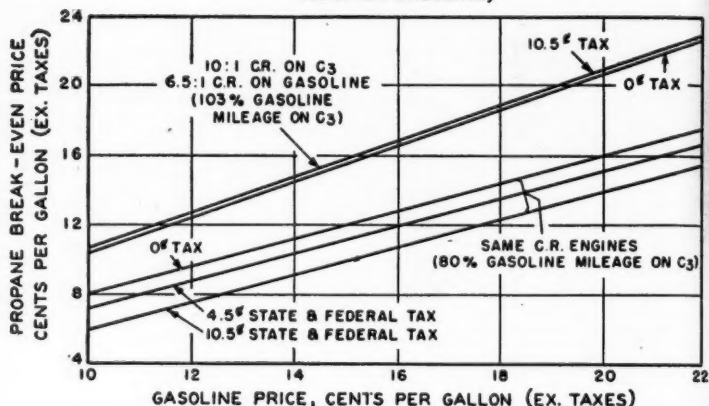


Fig. 1. Fuel-only, break-even price of propane relative to gasoline price.

statistics that diesel engines use considerably more oil than gasoline in most applications, and further, it is known that vastly differing fields of operation, such as is noted above, result in considerably differing consumption of lubricating oils.

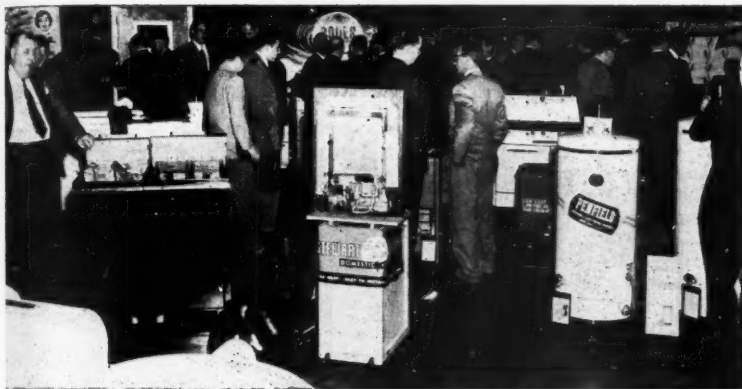
Since LP-Gas engine oil consumption was quoted at one quart per 250 miles it may therefore be assumed that the differential between diesel and propane fueled engines is somewhat larger in heavy duty work.

The authors also noted that in competitive selling, the consumer may be influenced toward LP-Gas on arguments other than strict economy. Among these are the greater noise level of the diesel, the exhaust odor, smoking characteristics and the shortage of experienced diesel mechanics.

Robert S. Lee of the Twin Coach Co., Kent, Ohio, reflected the trend

of the transit industry toward LP-Gas as a fuel, pointing out that "Internal combustion engine designers have long recognized the need for a fuel which possesses high octane rating, resistance to detonation and ideal combustion characteristics. Operators of such engines have sought a fuel which would minimize engine maintenance expenditures. Propane possesses all these advantages."

He indicated that reduction of operating costs, because of the economic conditions within the transit industry, may spell the difference between profit and loss. Reflecting the attitude of his company, which has produced hundreds of new LP-Gas equipped buses, Mr. Lee noted that, aside from fuel savings, the combustion characteristics of gas have increased the life of the Fageol engine up to 50% more than is normal with gasoline.



Some of the 300 attending UDI dealers examining appliance display in newly built showroom.

UDI Doubled Appliance Sales in 1950, And '51 Can Be As Good, Dealers Told

By Stephen A. Victor

UTILITIES Distributors, Inc., one of New England's largest LP-Gas distributors, more than doubled gas appliance sales last year, Larry Holman, merchandising manager, reported to more than 300 UDI dealers and servicemen attending the firm's annual sales convention in Portland recently. The increase he said, was solely due to intensive selling by the dealers.

Sales of gas ranges soared a phenomenal 150% in 1950, compared with national increase of 69.4%. UDI water heater sales were doubled in comparison with a national boost of 49.6% and space heater sales were upped by 50%.

Mr. Holman urged the dealers to continue their aggressive selling activities during the early part of 1951.

He warned that "real shortages" would set in nationally by Oct. 1, but added that dealers could make 1951 sales equal those of 1950 by hard selling now.

The convention opened with an open house at the UDI Thompson's Point headquarters in Portland, where dealers saw for the first time a vast new sales floor. Here the various trade exhibits were set up. The new sales floor was the product of more than a year's hard work by virtually everybody on the UDI payroll from the chief of plant police to the switchboard operator.

Dealers met on the second day in the Mayfair Room of the Lafayette

hotel and heard an array of national and local speakers plug gas and gas appliances. The motif of the convention was definitely Western, with all UDI personnel, male and female, suitably garbed in Western clothes. Guest speakers were provided with flowing Western cravats.

George R. Kelley, UDI sales manager, gave a brief, to-the-point summary of legislation now pending before the legislatures of the various New England states. Here are the highlights:

1. Maine now requires installation of 100% safety cut-off valves on all gas-fired brooders.

2. Maine requires that all space heaters in overnight cabins be vented.

3. New Hampshire authorities are increasingly active in the weights and measures field. Now required is a statement of net weight of gas delivered on all sales slips.

4. Massachusetts legislators are mulling a bill requiring that a permit be obtained by dealers for every gas installation made. Also under consideration is a bill requiring that credit slips be issued in all cases where gas remains in a tank removed from an installation in course of deliveries.

Stresses Gas Appliances

William D. Foster, of the George D. Roper Corp., urged all dealers to stick to gas. He stressed the importance of dealers handling just gas appliances. "Sure," he admitted, "electric appliances will bring you a lot of profit, but you've got to believe in gas to sell it. And how can you convince anybody you believe in it if you're also selling electrical appliances to do the same job?"

Mr. Foster outlined a five-point program which he felt would spell sales success to the average dealer:

1. Cooperation with national, regional, and local associations for improvement of business relations.

2. Participation in the national LPGA promotional campaign aimed at getting the best in public relations in the long battle against electricity.

3. Creation of company programs aimed at bettering employee compensation, advertising, and making greater use of manufacturers, their representatives and their services.

4. Development of a strong sales training program for ALL employees, clerical and otherwise.

5. Development of a spirit of enthusiasm among all employees.

Sales Era Noted

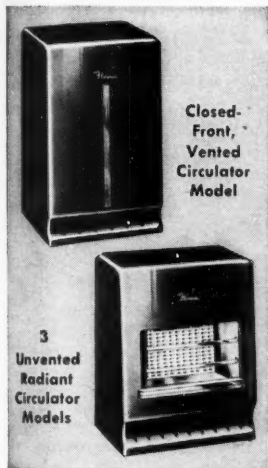
Fred Kaiser, Detroit-Michigan Stove Co. president, told the dealers that "today is the era of selling. We've conquered production and distribution, now we've got to sell." He explained that gas men now must develop the art of mass selling; must find ways to increase the efficiency of salesmen in the same way the efficiency of the factory worker has been developed.

Dealers should tell their farmer customers of a Government statement, made by Commerce Secretary Sawyer, that the electricity situation in New England is desperate, Joseph Rohde of the Hardwick Stove Company insisted.

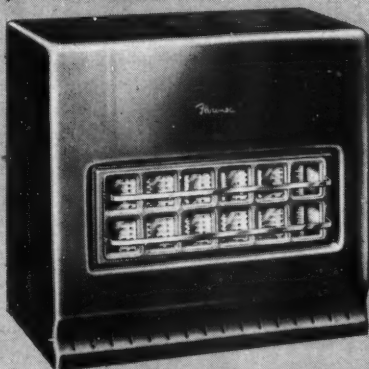
"There are a lot of power applications on the farm that can't be touched by gas," said Mr. Rohde. "Let's help the farmer solve these needs with electricity, and save gas for cooking, water and space heating jobs. By helping the farmer solve his power problem, we'll be able to sell gas."

Three factors must be considered

FLORENCE LP-Gas Heaters offer you increased sales



Automatic Controls for All Models Electro-Welded Seams
Easy-To-Clean Porcelain Finish



Exclusive Design—Exclusive Construction

Directed Floor Level Heat

Draft-Divertor Construction Clean, Odorless Blue Flame

Multi-Heat Cast-Iron Burners

FLORENCE OFFERS EVERYTHING EVERY DEALER NEEDS:

- ✓ Full line of cooking and heating appliances... for every fuel... for every budget
- ✓ Top-Quality... competitively priced
- ✓ A good margin of profit for you
- ✓ Sparkling, eye-catching design
- ✓ Work-saving features that close sales
- ✓ Consumer acceptance that builds demand
- ✓ Co-op advertising plan
- ✓ Full color point-of-sales display
- ✓ Complete selection of dealer sales helps
- ✓ Warehousing facilities for better service
- ✓ Big company resources—3 modern plants
- ✓ Continuous research and product improvement
- ✓ Over three-quarters of a century of experience —a tradition of value

FEATURE for feature, dollar for dollar, Florence LP-Gas Heaters top the industry, with new features and smart furniture styling. Of course, there's a full line of automatic controls to give you trade-up items for top profits.



FLORENCE STOVE COMPANY . . . General Sales Offices and Plant: Gardner, Mass. Mid-Western Plant: Kankakee, Ill. Southern Plant: Lewisburg, Tenn. Other Sales Offices: 1 Park Ave., N. Y.; 1452A Merchandise Mart, Chicago; 471 Western Merchandise Mart, San Francisco; 53 Alabama St., S. W., Atlanta; 301 North Market St., Dallas.

by every dealer in order to overcome the threat of recession, said E. Martin Anderson, UDI treasurer. These he listed as: Selective customer selling, selling of high grade appliances, and close examination of operations expenses.

He cited figures which showed that poor credit practices were the largest single factor behind small business failures. UDI, said Mr. Anderson, has for some time operated two retail stores to learn what it could of that phase of operations and then pass this information along to its dealers.

The new Servel "Silver Line" of refrigerators was unveiled by Ed Mockel. Michael Belka showed and discussed a host of point-of-sale, newspaper and other advertising and promotion methods and displays evolved by Servel to push its refrigerators.

Activities Described

Howard White, executive vice president of LPGA, told dealers of the myriad activities of UDI President Peter A. Anderson in behalf of LP-Gas dealers across the Nation. Anderson is also LPGA president. Mr. White reported that only a small percentage of the five billion dollars a month awarded in war contracts is yet in production. He foresaw severe shortages when full production started on these contracts.

Other speakers at the convention included Peter Anderson, who welcomed the dealers to Portland; Jordan D. Wood, UDI advertising and promotion manager; Lou Davis, New England LPGA executive secretary; Frank Henke and Robert Lupo of the Harper-Wyman Co.

LP-Gas Division Set Up By Texas Legislature

A separate Liquefied Petroleum Gas Division of the Texas Railroad Commission has been created by an act of the current legislature in Texas which will enable the department to maintain adequate inspection service and enforcement of safety measures and other rules.

The bill creating the division has passed both houses and now awaits the governor's signature. If it is signed, the bill will be effective at once. If, however, the governor does not sign it, it will go into effect 90 days from the close of the current legislature.

Ample funds for the division's operation were provided to be used in setting up the department's functions and to pay salaries of a director, inspectors, and other employees necessary for its operation. Under the old setup, due to lack of sufficient funds, the Railroad Commission had been unable to do a thorough job.

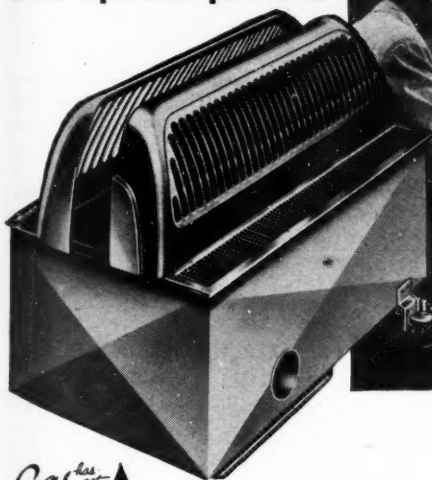
The Texas Butane Dealers Assn. has pledged its full support of the newly established agency to assist in making it of benefit to the public and the industry as well.

Indiana Dealer Wins Truck From Weatherhead Drawing

The 1951 Ford service truck given away by The Weatherhead Co. at the 20th annual LPGA convention was won by Dale B. Richey of Indiana Bottled Gas Co., Lafayette, Ind.

T. V. Scott, sales manager of The Weatherhead Co.'s LP-Gas equipment division, made the presentation.

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The small furnace with big furnace performance! This heating plant comes in one compact package ready to install in the floor. Engineered for homes with or without basement, eliminates excavations, duct work and extra plumbing costs. Heats to 5 rooms.

The "move-the-heat" action of Coleman Shalloflow Floor Furnaces means a lot more healthful comfort for your customers, a lot easier selling job for you. The Dual-Wall Model (above) fits beneath wall or partition to heat adjoining rooms at same time.

Also in Flat Register Model. Write for complete information. The Coleman Company, Inc., Wichita 1, Kans.

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Comfort costs so little with a Coleman

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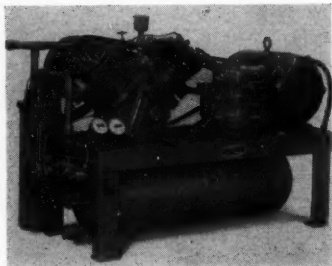
Please send me information on Coleman Floor Furnaces—

Name _____

Street _____

City _____ Zone _____ State _____

Products



Brunner transfer unit.

LP-Gas Compressor

Brunner Manufacturing Co., Utica 1, N.Y.

Model: LPG 51.

Application: Originally designed for transferring volatile liquids and salvaging gases left in tank car after unloading, this new unit incorporates new improvements for convenience in servicing, increasing efficiency, and speeding up the unloading operation.

Description: Improvements include a 60-gal. propane suction surge tank; suction strainer with increased capacity to trap all liquid condensed in a 150-ft. run of piping; automatic oil separator which returns most of the oil pumped from the crankcase; structural steel base which increases rigidity and mass of the assembled unit and gives greater vibration dampening.

An oil-filling assembly, lubricated 4-way valve, sealing condulet, suction surge tank drain valve, and oil

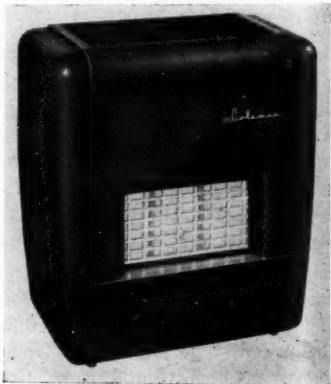
drain are additional new features. Pressure-reducing valve has been eliminated. The high-test, cast-iron crankcase will withstand full line pressure. An 11-page booklet is available from the company giving complete data on the new compressor unit.

Radiant Heater

Coleman Co., Wichita 1, Kan.

Model: No. 56.

Description: Rated at 40,000 Btu per hour input (28,000 output), this AGA-approved, vented space heater features a completely concealed inside heater casing, permitting the heater to be installed close to the wall. The heater has a 4-in. vent pipe, seam-welded combustion chamber, and functional air-flow design



Coleman heater.

for maximum circulation. The specially-designed front panel makes possible a large amount of desirable radiant heat. An automatic safety pilot is standard equipment on the LP-Gas model, together with a gas pressure regulator.

The heater is finished in shadowed mahogany baked enamel. It has a side lighter door for quick and easy lighting and servicing. Overall size is 30 x 26- $\frac{1}{2}$ x 16 in.



Florence range.

Domestic Range

Florence Stove Co., 205 School St., Gardner, Mass.

Model: Custom Deluxe K4920.

Description: The multi-feature top of this range has two standard size burners and two giant size, "Vita-Flame" burners plus a giant-size griddle burner. The swing-door broiler has a 3-position porcelainized pan and grille. The oven, measuring 14 x 18 x 20 in., is controlled by combination thermostat and oven gas cock. It has a double-glass window and oven light with switch on back-guard.

A warmer department is below the

oven and a service drawer is below the broiler. The AGA-approved range is designed for flush-to-wall installation. It is finished in titanium porcelain enamel. Base, service compartment interiors, back wall, and inner frame are black, baked-on enamel.

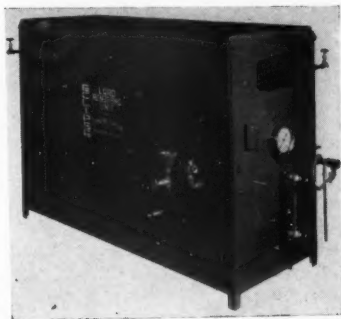
Lard-Rendering Unit

Eclipse Fuel Engineering Co., Rockford, Ill.

Model: McKee-Eclipse.

Application: For the locker industry.

Description: The lard-rendering unit is supplied with a standard McKee automatic gas-fired steam boiler built for 100 lb. maximum working pressure. The unit can be supplied with a removable hood having a sliding or hinged door and a flue outlet which will carry away the odors of rendering and conserve heat. It is supplied complete with kettle, legs, two air-vent openings with fittings, steam inlet and return openings, base for boiler, special lard draw-off cock, steam connections to boiler, four removable side panels with lighting door, boiler with burners for all gases, steam gauge, try cocks, water gauge, pop safety valve



McKee lard renderer.

set at 75 lb., side outlet hood, automatic steam pressure control, lighting torch, gas shutoff cock, water refill funnel with valve, and ½-in. gas manifold.

The Eclipse lard-renderer is designed to handle 500 to 1500 lockers and has a recommended capacity of 25 gals. The capacity level full, however, is 37 gals.

The procedure for rendering a batch of lard consists of placing the small piece of fat in the hot kettle. After the cracklings have lost their "sponginess," open the draw-off cock, pass the lard through a strainer into a cooler. The lard is then placed in containers for the customer's use. At least 90% by weight of the original fat is good, clean, white lard.

Console Heater

Queen Stove Works Inc., Albert Lea, Minn.

Model: Superflame Gas Saver D-45.

Description: This is one of five new Gas Saver heaters—with 45,000 Btu input rating. Other models range from 18,000 to 65,000 Btu. Features of the new consoles include a double "gas saver"; stainless steel, ribbon-



Superflame heater.

type burner; baked-on silicone finish; new all-in-one safety control which combines pressure regulator, 100% safety shutoff, main burner, and pilot valve. This new control is made completely automatic by the addition of either a non-electric "add-on" thermostat or an electric add-on thermostat.

Propane Tank

Master Tank & Welding Co., P.O. Box 5146, Dallas.

Description: This 500-gal. propane tank measures 36 in. in diameter by



Master tank.

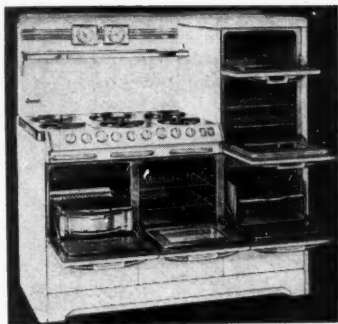
10 ft. long. Improved safety, design, and appearance features have been incorporated in the new tank which has a drawn, 1-piece dome cover with a hasp for locking. It has a compact fitting arrangement using No. 2593 Rego multivalve, Taylor float gauge, and Fisher regulator. Liquid withdrawal is provided from filler valve and also from a 1¼-in. plugged outlet in the bottom of the tank.

Domestic Range

O'Keefe & Merritt Co., 3700 E. Olympic Blvd., Los Angeles.

Model: 5850

Description: This range has many special features including three 12,000 Btu and three 9000 Btu top burners with center-simmer feature; two 16-in., wrap-around ovens with low-tem-



O'Keefe & Merritt range.

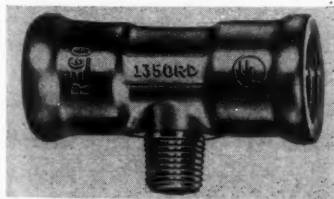
perature oven burners; two smokeless broilers, waist-high with automatic pull-out; two storage compartments; warming oven; "Kool Kontrol" panel. The upper baking oven has automatic clock control. Model 5850 also has electric timer, thermostatic oven control, convenience outlet, fluorescent lighting for cooking top, detachable aluminum griddle, and shelf for working space. The high oven is available on either side. Safety pilots and automatic lighting are featured throughout the range.

Check-Valve Manifold

Bastian-Blessing Co., 4201 W. Peterson Ave., Chicago 30.

Model: Rego No. 1350 RD.

Application: For direct connection



Rego check-valve manifold.

to the regulator in place of the usual male POL outlet.

Description: The check-valve manifold provides a 1/4-in. male taper thread outlet. It can be used with Rego No. 2303A2 or 2403A2 regulator in Rego Nos. 6714 and 6715 outfits. The disc check construction provides an inexpensive manifold that permits safe and easy replacement of the empty cylinders in a bottled gas system without disrupting service to the appliance. Made of forged brass body, the new manifold has female POL inlets and a 1/4-in. NPT outlet.



Heatrola console.

Console Heater

Estate Stove Co., Hamilton, Ohio.

Model: Heatrola, "5000 series."

Description: The new line of "5000 series" Heatrolas incorporates the "Intensi-Fire" combustion chamber. Baffles are said to cause re-combustion of flame products and a heat exchanger doubles the heat travel and affords extra radiation surface. The combustion chamber is completely porcelain enameled to afford protection against rust and corrosion. The new "Air-Flow Burner" is of pressed

steel, fully porcelain enameled, and is of port-type. Fin-like design of burner is expected to combat distortion through utilization of air-cooling principle.

Safety Valve

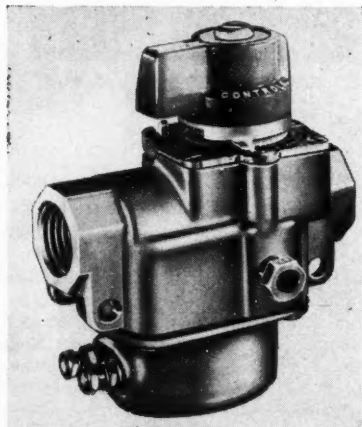
General Controls Co., 801 Allen Ave., Glendale, Calif.

Model: MR-5.

Application: For use on circulating and unit heaters, boilers, water heaters, wall and floor furnaces, and forced air blowers.

Description: According to the manufacturer, this valve is one of the smallest combination safety and plug valves in the field. An important feature is the "fail-safe" operation of the MR-5. Being a pilot safety valve, the control "fails" to the "safe" side in the event of pilot flame failure.

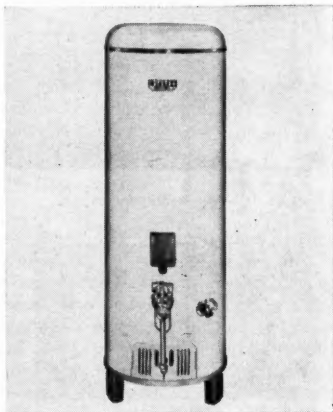
Principally, the valve is a safety shutoff valve consisting of a thermocouple safety incorporated into a high-flow gas cock valve structure.



General Controls valve.

Through its use and lighting cycle, it is impossible to allow passage of gas into the main burner because of its "safe lighting" design.

Sizes range from $\frac{3}{8}$ -in. to $\frac{3}{4}$ -in. with high gas capacity.



Ruud water heater.

Water Heater

Ruud Manufacturing Co., Pittsburgh 1, Pa.

Model: M30-36.

Description: Featuring a rust-proof Monel tank, this model will deliver 66 gals. of equivalent 160° water the first hour of draw and 36 gals. per hour continuously thereafter. This is a rating particularly significant for the satisfactory normal or above-average use of automatic home laundries.

Domestic Range

Hardwick Stove Co., Cleveland, Tenn.

Model: No. 5516-1.

Description: This is one of the 5500

HERE ARE YOUR ANSWERS

PARTIAL LIST OF CONTENTS

WHAT IS PROPANE?—Supply. Properties. Definitions.

THE BEHAVIOR OF GASES—Pressure. Specific Gravity. Density. Compression.

HEAT AND TEMPERATURE—Heat Transfer. Conduction. Convection. Radiation. Expansion.

WHAT GOES ON IN A PROPANE CYLINDER? Construction. Filling.

THE SIMPLE REGULATOR—Design. Problems and Cures.

REGULATOR MANIFOLDS—Service Problems. Multiple Installations. Various Manifold Systems.

REGULATIONS — Equipment Selection and Installation. Domestic. Industrial. Safety.

LP-GAS PIPE LINES—Friction. Sizes. Formulas. Charts.

TESTING FOR LEAKS AND ADJUSTING BURNERS—Flame Characteristics. Servicing.

FUNDAMENTALS OF THERMOSTATS—Types. Service. Expansion of matter under heat.

PILOTS AND PILOT CONTROLS — Types. Causes of Failure. Proper Location. Adjustment. Safety Pilots.

BURNER DESIGN AND APPLICATION — Ports. Orifices. Burner Installation.

APPLIANCE CONVERSIONS—Inputs for Domestic. Commercial and Industrial Burners. Required Information.

FACTS ABOUT WATER AND WATER HEATERS—The Effects of Water on Heaters. Usage Tables.

TYPES OF WATER HEATERS—Installation. Safety Devices. Efficiency.

SELECTING AND INSTALLING WATER HEATERS—Demand Analysis. High Bill Complaints. Service Problems. Peak Demands. Capacities.

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BUTANE-PROPANE News

198 So. Alvarado
LOS ANGELES 4,
CALIFORNIA



Hardwick range.

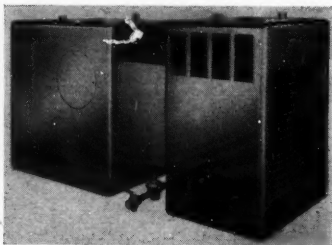
Series of Hardwick ranges featuring standard 16-in. one piece oven; accurate oven heat control; high-speed, low-temperature oven burner; and lock type safety racks. Roll-out broiler drawer has porcelain pan and aluminum tray. The range has two giant size and two regular size burners.

Furnace

Surface Combustion Corp., Toledo 1, Ohio.

Model: LPG Janitrol.

Application: This low clearance



Janitrol furnace.

heater is for basement floor or attic suspension installation.

Description: Ranging in size from 85,000 to 450,000 Btu and in heights from 30½ to 34½ in., the unit features a blower that delivers heat through ducts to living or business quarters. The blower section is suspended as a separate-but-coordinated unit behind the heater or may be located nearby, making easier and more flexible installation. Alternate placement of the 2-section blower-heater units is on an angle iron support frame for use at basement or other floor level. An outstanding feature of the rugged heat exchanger is the inside and outside ceramic coating for rust and corrosion resistance.

Product Information

Use of a constant-voltage transformer as an electric ignition system to light the oven of a gas range, eliminating the need for a constant burning pilot, is being featured on ranges of the Geo. D. Roper Corp., Rockford, Ill. The transformer is made by the Sola Electric Co., Chicago; the system was developed by Bryant Heater Div., Cleveland, Ohio.

The transformer, bolted to the back of the range, transforms ordinary house current into 12-volt current required by the automatic ignition coil in the oven. Thus, by turning the oven-burner knob, the ignition coil is put to work—when it heats, it lights the gas for the oven or broiler. After lighting the oven or broiler, the coil automatically shuts off.

Catalogs

Issued recently was the 1951 "Brilliant Fire" catalog of the Ohio Foundry & Manufacturing Co. describing

HANDBOOK BUTANE-PROPANE GASES

- **Up-to-date technical facts on LP-Gases.**
- **352 Pages. Illustrated with Charts, Diagrams and Photographs.**



Check this partial list of contents.

INTRODUCTION

- The Progress of the Industry and the History of its Development.
- The ABC of LP-Gas, an Introduction to LP-Gas Operations.

PHYSICAL AND CHEMICAL PROPERTIES

- Properties of the Hydrocarbons in LP-Gas.
- Properties of Butane-Propane Mixtures
- Volume Correction Factors
- Analytical Determination and Testing

PRODUCTION OF LP-GAS

- Natural Gasoline Plants, Recycling Plants, Oil Refineries

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- Liquid Metering and Pumping Systems

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DISTRIBUTION OF LP-GAS

- Installing and Servicing LP-Gas Systems
- Semi-Bulk Systems
- Bottled Gas Systems
- Gas Utility Service from Central Plants
- Multiple Utility Service from a Central Plant

REGULATIONS

- N.B.F.U. Pamphlet No. 58 (1947).
- Motor Carrier Regulations
- Freight Regulations
- Unloading Tank Cars
- Marine Regulations

APPENDIX

- LP-Gas Insurance
- Handy Tables for Field Use
- The Interchangeability of Other Fuel Gases with Natural Gases
- Flame Weeding
- Bibliography
- Glossary of Terms

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Published by

BUTANE-PROPANE News

198 So. Alvarado Street
Los Angeles 4, California

the company's line of vented and unvented gas heaters. Detailed descriptions and specifications are given for all types of heaters from small utility models up to 75,000-Btu winter air conditioners. Various types of automatic controls and factory-assembled auto-control packaged units are described.

The catalog is available from the company, P.O. Box 191, Steubenville, Ohio.

Handley-Brown Heater Co., Jackson, Mich., has published a folder describing its part in the national defense program and illustrating its line of water heaters. The exclusive "U" tube model, "Imperial Speedmaster," "Standard Speedmaster," and table-top models are described. Handley-Brown also manufactures automatic gas conversion burners for domestic heating.

The second issue of "Heat Treat Review," published by **Surface Combustion Corp.**, Toledo 1, Ohio, features articles on gas carburizing furnaces, their design and operation; continuous heat treating of automotive forgings; and high-speed heating of forged automobile knuckle spindle supports. Drawings, graphs and photographs illustrate the articles. Copies of the 8-page review are available from the company.

Specification sheets describing new heating equipment are available from **Norman Products Co.** A new overhead forced convection heater, No. 360, for commercial and industrial heating of stores, shops, warehouses, gas stations, small buildings, factories, is described, together with the company's line of gas furnaces. The sheets are available from the com-

pany at 1150 Chesapeake Ave., Columbus 12, Ohio.

Under the title of "Gas Heating Costs can be Reduced," **Adams Bros. Manufacturing Co., Inc.**, emphasizes in a new booklet the secondary importance of initial investment in equipment when compared to the year-after-year outlay for fuel. Home owners are interested primarily in maximum comfort and convenience, it is stated, and the delivery of such services at the lowest possible overall cost should be the objective of manufacturers and dealers, alike.

The importance of appliances designed to attain best efficiencies, with consequent economies, is explained in interesting detail and the purpose of the booklet is stated to be the presentation of facts which show possible economies in gas heating which are not generally recognized.

The booklet is free to the trade from the company at 1500 W. North Ave., Pittsburgh, Pa.

Radiant gas burners are discussed in a folder published by the **Iron Fireman Manufacturing Co.** Also described are the company's forced circulation and gravity gas furnaces. The folders are available from Iron Fireman Manufacturing Co., 3170 W. 106th St., Cleveland 11, Ohio, or 4784 SE 17th Ave., Portland 2, Ore.

Butane and propane cylinders, manufactured by the **Steel Cooperage Co.** division of the **Serrick Corp.**, are described in a brochure available from the company. Manufactured according to ICC regulations, the cylinders have mild steel data plates and embossed foot ring for the dealer's name. The folder can be had from the company at 4801 Bellevue Ave., Detroit 7.

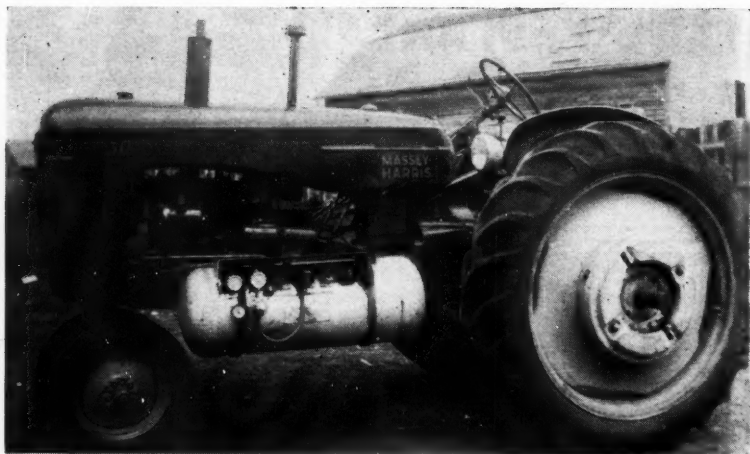
BUTANE-PROPANE

POWER

SECTION

Installations — CARBURETION — Conversion





Tractor owned by Orville Smith has Ensign carburetor system and Santa Fe Engineering fuel tank.

Engine Conversions Booming For Western Canadians

DEVON, Turner Valley, Jumping Pound, Pincher Creek and other tremendous wet gas fields are the basis for a coming major revolution in industrial carburetion throughout western Canada.

Up until July, 1950, when Imperial Oil Ltd.'s \$6,000,000 natural gasoline absorption plant at Devon came into production, the industrial market had listened with interest but little seriousness to our claims for "Lunagas" as a carburetion fuel. But with the establishment of

By W. F. Macalister

Assistant Manager, Luna Gas, Ltd.,
Edmonton, Alberta

a supply, much surplus to the present demand, and convinced of its economic advantages, they are asking just what is Luna Gas, Ltd., of Edmonton, doing about the specific problems of widespread distribution and use.

From Fairview, 400 miles north in the Peace river country, to Stettler, rich oil field center 100 miles

south; from Jasper, the world famous mountain resort in the West, to Dewberry on the Saskatchewan border; and in many towns and villages, such as Wetaskiwan, Edson, Westlock, Ponoka, Wainwright, refueling stations are already established. By the end of 1951 it is planned to provide filling stations at least every 20 miles on each main highway in this area which covers 250,000 square miles.

In the center of Edmonton, served by four major airlines, three railways, and 40 truck lines, is maintained one of the most complete stocks of Ensign carburetion repair parts and technical information on the continent. And because mobile

carburetion cannot be localized, the surrounding territory has been covered by the appointment of such dealers as Stewart Petroleums, Ltd., of Calgary; Saskatoon Propane, Ltd., of Saskatoon; and B. C. Auto Carriers, Ltd., of New Westminster in British Columbia.

Cost Lowered

Before the opening of the Devon plant, Lunagas could not be distributed at a carburetion price, and so was restricted to distributor's vehicles and test units which were carried as a sales expense. With an average daily production of 15,000 gallons a day from that plant, a price for Lunagas has been set, reduced so that the carburetion load has steadily increased to reach some 60,000 gallons a month consumed in January, February and March of 1951.

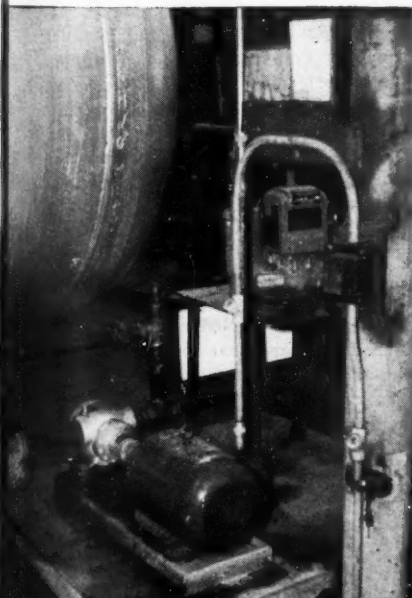
These 60,000 gallons have been used in drilling rigs operated by Parker Drilling Co., Can-Tex Drilling, and Canadian Gulf Oil Co. These rigs had used the fuel with great success in American operations and were quickly brought in when a local supply was assured.

The Edmonton Transit System operates 25 Twin City buses, and plans for the complete conversion of the gasoline-fueled units inside of two years.

Commercial truckers such as the Scott Bros., of Sangudo, and Ford Scott, of Lac La Biche, are watched with keen interest by the truckers. Ford Scott claims a savings of 50% in operating costs.

The first test taxi and school bus units are on the work books for

LP-Gas installation in use by Edmonton Transit System, showing 3000-gal. tank, Smith MC-2 pump, and Neptune Print-O-Meter.



May conversion, being held up solely by the shortage in equipment.

Due to the climatic conditions, liquid withdrawal is essential in any mobile carburetion unit, and this has caused the tractor field to be developed slowly, but solidly. Although there are a few conversion units, most attention is given to the factory built equipment of Minneapolis-Moline and J. I. Case Co. Both of these companies have had units available for sale in western Canada since last fall and the western Canadian farmer is keenly interested in the performance as spring planting starts. Those units which are out have proved themselves so far under much more severe tests, namely, a Canadian winter.

With more than an adequate supply of Lunagas ensured for even the most enthusiastic protagonist, refueling stations set up to blanket the area, extensive repair parts in its stock bins, and a staff of trained personnel, Luna Gas Ltd. is devoting every effort to obtain and install the necessary conversion equipment of Ensign carburetors, mobile fuel tanks and bulk storage tanks.

Faced with a probable production in the province of Alberta by 1960 of half a million gallons of LP-Gas a day, the immediate development of consumer storage capacity is a problem which should concern everyone in Alberta. For it is only by a large scale conversion of the industrial carburetion market that the people's resources will not be wasted.

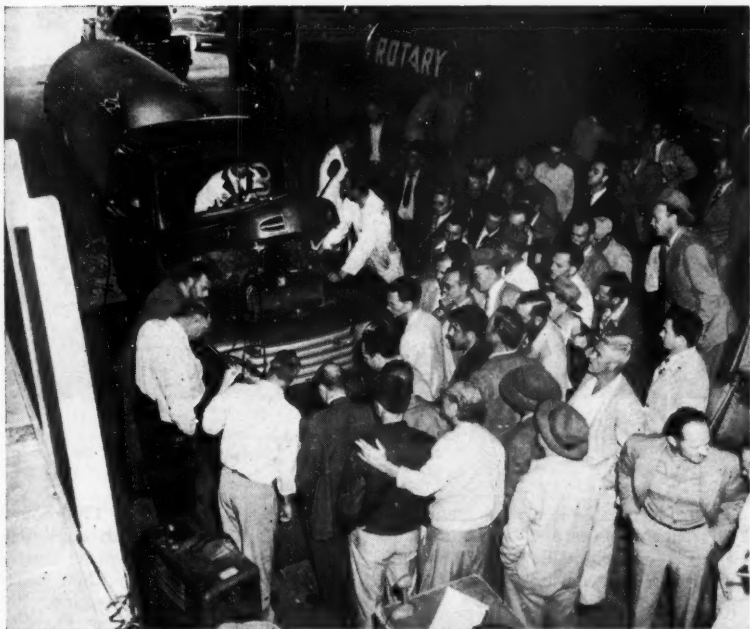
Southern Service School To Be Held at LSU July 9-11

Following plans made at an April 16 meeting of the Butane-Propane Institute of Louisiana, the educational committee of the Liquefied Petroleum Gas Assn., and university officials, a 3-day service school will be held on the campus of Louisiana State University, Baton Rouge, July 9-11. The meeting took place in the offices of K. E. Jones, director of the Louisiana LP-Gas Commission.

Comprehensive Program

J. P. Love, Dallas, chairman of the educational committee, presided at the meeting, which was composed of industry men from Louisiana, east Texas, south Arkansas, and Mississippi. Prof. N. A. Hauer, head of the department of industrial education at the university, is working with LP-Gasmen in outlining the tentative program, which so far includes lectures on properties and characteristics of LP-Gas, location and installation of systems and house piping, regulators and operating problems, fuel transfer, thermostats and pilot-generated controls, water heaters, venting, engine fuel, heating, electrical controls, burner adjustment, and customer relations.

Enrollment will be limited to approximately 200 students. Dealers will receive application forms for their employees and are urged to send the forms in immediately to be assured of a reservation. The fee will be about \$25, which will cover registration, three nights' lodging, and eight meals. All students will receive a manual of the course after its completion. Registration will begin on Sunday, July 8.



Part of the Superior California crowd watching the carburetion testing demonstration at Sacramento on April 14.

Superior California Group Puts Tractors to Tests

More than 100 LP-Gas dealers and their mechanics, and garage owners attended a carburetion testing apparatus demonstration held in Sacramento, Calif., recently. The demonstrations were made possible through the cooperation of the Superior California Liquid Gas Dealers Assn. (the Sacramento area group), the Liquid Gas Dealers Assn. of California, Miller Automobile Co., and representatives of carburetor manufacturers.

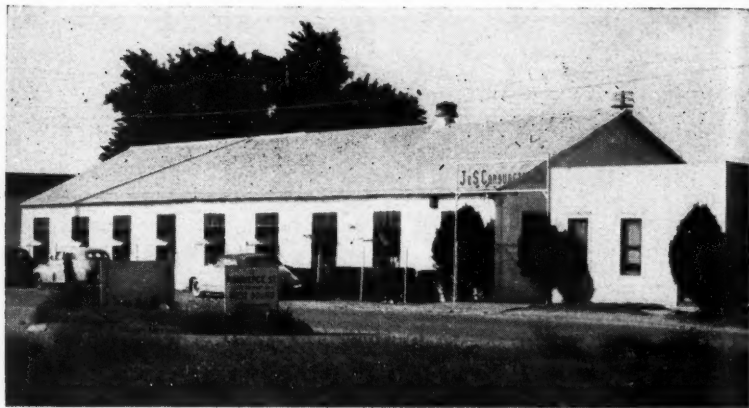
Walker Apperson, president of the

Superior California group, reported that the results of the demonstrations were very favorable for butane.

J & S Carburetor Expands Dallas, Texas, Plant

Construction has been completed on a new plant which will provide additional facilities for the J & S Carburetor Co.'s assembly, shipping and receiving operations at Dallas, Texas.

Manufacturers of carburetion equipment since 1934, the company



Newly enlarged plant of J & S Carburetor Co., Dallas.

also produces LP-Gas conversion kits for tractors, buses and trucks.

S. P. Jones, president of the company, has incorporated several features in the new plant which will make it one of the most modern in that area. It is fluorescent lighted, heated with butane overhead heaters and equipped with a pneumatic conveyor for written communications between offices and plant, in addition to an interphone system.

The new building together with the original office building brings the concern's total frontage to 310 feet on North Beckley St.

Creamery Vans Converting To LP-Gas Operation

Conversion of gasoline engines to butane on refrigerator vans of southern California's Golden State Creamery has been taking place.

It is reported that in a test using Cyclone equipment, the automatic

starter was checked after 1700 hours' operation on LP-Gas with negligible wear evidenced. The automatic starter had to be rebuilt every 1500 hours when operation was on gasoline.

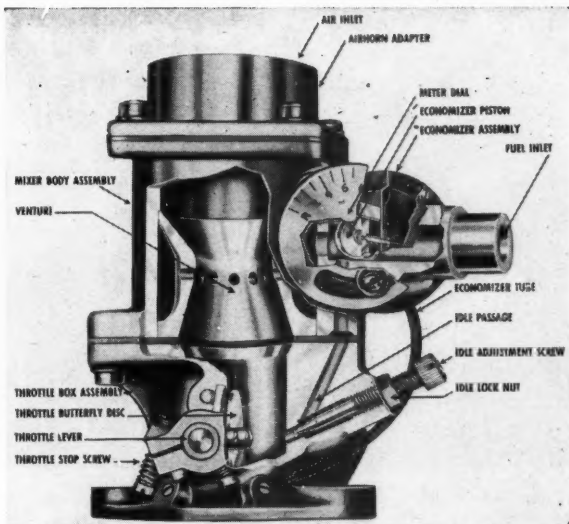
New Algas Carburetor Gives Flexibility to Installations

A new design for their 1400 series carburetor for truck, bus and automobile engines, has just been announced by American Liquid Gas Corp., Los Angeles, which provides a wide range of applications.

Most LP-Gas carburetors in the past have been designed with the mixer and airhorn all made in one assembly. This meant that in many installations it created a considerable problem in adapting carburetors to every size air cleaner.

Like most other makes, the old style Algas 1400 Series carburetor was made in a 2-piece assembly, the throttle box and the mixer-airhorn

Cut-away view of the new, improved "Al-gas" 1400 series carburetor.



assembly. Now the new design is made in three principal parts—the lower portion, which is the throttle box and includes the throttle and idling system; the center assembly which is the mixer, including the venturi, main jet and economizer; and the upper portion which is the airhorn, either a straight or Donaldson type.

The unit may be used for either vertical or horizontal installations. For horizontal use, a conventional elbow is installed between the mixer and the airhorn.

Traveling Controls School Visiting Mountain States

Eleven towns in the Mountain States District were visited in June by the Robertshaw-Fulton Controls Co. traveling thermostatic control

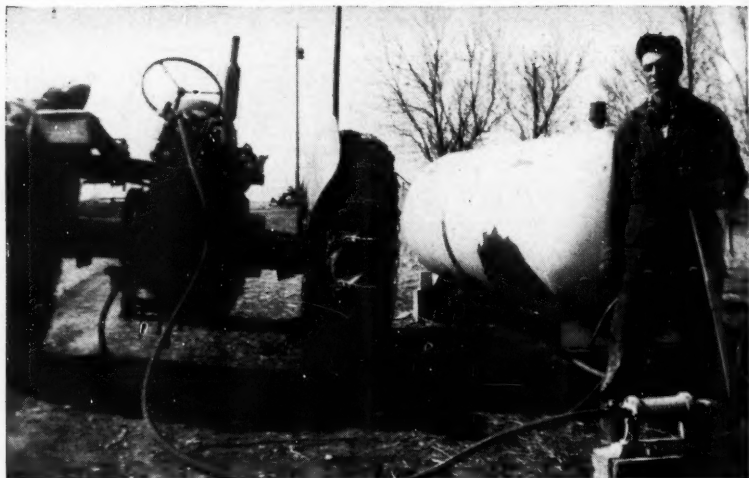
school. Under the direction of M.B. Gault, field representative of the company, the school will visit the following Colorado towns in July:

July 2, Pueblo; July 5, Denver; July 6, Sterling; July 7, La Junta.

Oil and Fuel Consumption Less With LP-Gas

A South Dakota farmer, Roy Adams, is typical of many tractor owners throughout the U.S. who have converted their gasoline-burning units to LP-Gas in the past few years.

Mr. Adams has proved that LP-Gas is a cheap and practical fuel for tractor power. For the past two years, he has farmed 240 acres near Madison, S. D., with his converted Minneapolis-Moline tractor. Last year he found that his fuel bill was



Roy Adams, South Dakota farmer, fueling his LP-Gas tractor from his own storage.

\$108 less than during the year in which he used gasoline—even though he is now farming 80 acres more than in his gasoline farming days.

During his last two years of operation he reports that he used only 70 quarts of oil for the entire period.

Mr. Adams is shown filling his tractor tank from his storage tank at his ranch, in the accompanying picture. He is using a Krug, piston-type hand pump. In this operation he uses a liquid line and a vapor return line. In an operation of this kind, filling is quick, simple, and inexpensive.

LP-Gas Tank Withstands 500-Ft. Fall From Plane

Landrum L. Hughes recently conducted tests in Oklahoma City to prove LP-Gas' economy, safety and dependability to the aviation industry.

Mr. Hughes has maintained that a propane pressure tank will not explode in a crash. And just to prove his point he took a four-gallon tank up in his LP-Gas-fueled private plane, dropped it out at an altitude of 500 ft. and watched it bounce. Later inspection showed that the tank wasn't dented and the valves, protected by a housing, were in perfect working condition.

He later flew to the LPGA convention in Chicago, reporting that he spent four dollars for fuel where gasoline would have cost him \$15. Comparative fuel costs in Oklahoma are about eight cents per gallon for propane and 31 cents for aviation gasoline. In addition to this saving, Hughes says that his 145 hp. engine burns but eight gallons of propane per hour as compared to nine gallons of gasoline.

needed to detach his cultivator to burn his weeds."

With just a little different hook-up the farmer can use the same burner to clear weeds from irrigation ditches, too.

Once Mr. Ikard's service staff developed the simple front mount for the flame cultivator, one farmer sold others on the conversion.

"The flame cultivator takes the place of a dozen hands," Mr. Ikard said. "It didn't take farmers long to see the savings. For with the flame cultivator a farmer can 'chop' an acre of land for 50 cents!"

By the first of this year there were more than 100 of these flame cultivators in use in Mr. Ikard's areas. And Mr. Ikard had orders for about



The A. L. Goldston farm, near Hatch, N. M., uses a standard conversion setup, with fuel tank on rear.

30 more in his files. Installation of a tank, mount and burner is a \$275 deal. Installation of 30 of these flame cultivators, at \$275 each brought Mr. Ikard a sizeable extra volume.

In terms of gas sales here's what this means:

Each cultivator uses five gallons of liquid gas an acre; that's 50 cents

2 REASONS why smart dealers sell **ROADMASTER** L. P. G. CARBURETORS

1. Dependable ENGINEERING

15 years of skillful engineering by Roadmaster carburetor experts combined with grueling laboratory and road tests have resulted in the finest L.P.G. Carburetion in the internal combustion engine field.

2. Dependable Performance

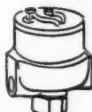
Thousands of satisfied customers using Roadmaster installations, under all kinds of weather and driving conditions, prove Roadmaster "number one" in quick starting, powerful, economical performance.



Model UT-2 Vaporizer and Regulator for primary and secondary regulation, with vaporizer interposed. Quick, easy installation.



Model M adaptor
Carburetor



Electric Fuel
Shut-off valve

Mr. Dealer: You can make money selling Roadmaster L.P.G. products. Many good territories open. Write or wire

ROADMASTER PRODUCTS Company

3350 San Fernando Rd., Los Angeles 65, California

per acre. In a day's time one outfit cultivates about 20 acres.

With about 130 of these cultivators in action this summer, Mr. Ikard will sell 130 times \$10 worth of gas, or \$1300 worth each day!

In addition to flame cultivators in his area, Mr. Ikard also has about 200 cultivators that have converted to butane for their engine fuel. That's more agricultural income!

Incidentally, when a farmer is already using liquid gas on his cultivator for motive power, he can add a flame cultivator just by running another line to the same tank, Mr. Ikard said.

The appliance phase of the business was developed this way:

First of all, Mr. Ikard has one man making outside calls in Las Cruces, a city of 15,000, who specializes on appliances exclusively. (He also has another man who is contacting far-

mers and ranchers on flame cultivators and converters.)

But the major builder of appliance volume comes from leads supplied by the firm's nine deliverymen. Mr. Ikard makes it worthwhile for the drivers to keep their eyes open for prospects for appliances. He pays a driver \$5 to \$10 (depending on the size of the sale) for every prospect that develops into a sale.

Drivers just supply leads. Mr. Ikard, or one of his branch managers, follows up these leads to make sales. (The firm operates branches in Hatch, Anthony, Deming, and Truth and Consequences, N. M.)

"By making it worthwhile for our drivers to look for leads," Mr. Ikard

**FOR BETTER
CONVERSIONS
(TO L-P
GAS)**



Make every conversion a better installation by using an Ellis Manifold designed especially for LP-Gas. Your customers will find they get more power and mileage . . . and you will get more customers.

Ellis "Bu-Power" Manifolds have been tested and proven by hundreds of successful installations.

ELLIS MANIFOLD CO.

2212 E. Washington Blvd.
Los Angeles 21, Calif.



This flame cultivator mounted on front of tractor is in use at the Forrest Hedgecock farm at Hatch, N. M. Note propane cylinder, mounted on brackets to utilize the vapor system of carburetion.

said, "we get maximum sales from our 5000 accounts in our main area and the four branches."

Another source of prospects is the newspaper advertising Mr. Ikard does on a cooperative basis with his manufacturers of conversion equipment and appliances.

He also sends stuffers that promote these items via direct mail. No statement goes out without a piece of literature that has a chance to build extra sales.

With conversion tanks, practical flame cultivators and appliances, Mr. Ikard is getting, and expects to get, much "plus" business this summer.

Standards Established For Anhydrous Ammonia Systems

Organization of a project on storage and handling of anhydrous ammonia and ammonia solutions has just been approved by the American Standards Assn. This project was recommended at a recent conference of groups concerned with the manufacture, distribution, and use of this chemical. The conference was called as a result of a request from the Compressed Gas Assn. The CGA has been approved as sponsor for the project under the procedure of the American Standards Assn.

The scope of the project as approved by ASA covers: "Safety standards pertaining to the design, construction, location, installation, and operation of anhydrous ammonia systems, and transportation and storage of anhydrous ammonia, and ammonia solutions, but not pertaining to ammonia manufacturing plants, refrigerating or air conditioning systems."

Standards developed under the procedures of the American Standards Assn. have to be agreed upon by all who are substantially concerned with the problem and with the scope and provisions of the standards. The consensus principle extends to the initiation of the work under ASA procedure, to the method of work to be followed, and to the final approval of the standard.

We Have Tractor Units Now . . .

- *Simple to Install*
- *Easy to Operate*

For simplicity or Ease of Operation there is no LP-Gas Carburetor superior to Dix.

It attaches to regular gasoline carburetor bowl. There are no expensive or complicated changes necessary.

All Dix Units are Liquid.

Dix Manufacturing Co.

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Houston, Texas
Phone KE-8690

Washington News

CONFUSION continues to exist in Washington, resulting in many rumors of changes in existing orders and many actual variations to those first issued. This doesn't make it any easier for men in the dealer category to interpret current regulations.

Out of all this seems to come the feeling that restrictions on materials are going to ease up as the year progresses. This is evidently due to the fact that defense needs are being met easier and quicker than was originally expected.

LP-Gas Storage Gets Priority

The Petroleum Administration for Defense has granted priorities assistance to 33 utility companies, liquefied petroleum gas distributors, and natural gasoline plants in obtaining approximately 4400 tons of steel for construction before next winter of storage facilities for LP-Gas, it has been announced.

Nearly all of the tankage to be built by the utility companies and LP-Gas distributors given priorities assistance will be located in New England, the Middlewest, and the Southeast—the areas where spot shortages of butane and propane developed last winter.

Delivery orders had to be placed by the companies before June 1.

A government tank car survey has revealed that 8990 LP-Gas tank cars were in service on last April 1. Similar cars in other service would bring the total up to 10,212 total tank cars. On order for 1951 are 2487 more.

Ceiling Prices

A retailer will not be allowed to sell merchandise covered by any of the government regulations unless he

has posted in a prominent place in his store the following:

"Notice—The prices of merchandise in this store are no higher than the OPS ceiling prices of such articles."

Cobalt and Nickel Short

Serious shortages of cobalt and nickel are causing vitreous porcelain enamel manufacturers to worry.

The Frit Manufacturers Industry Advisory Committee is appealing for help. Frit is a type of glass used in the manufacture of vitreous porcelain enamel which in turn is used in the manufacture of refrigerators, stoves, and similar items.

M-46 Amended

The National Production Authority has established across-the-board priorities assistance for all segments of the petroleum and gas industries in the United States and Canada.

Order M-46 was amended to accomplish these major objectives:

1. To provide priorities assistance for domestic and Canadian operators for production and construction operations.

2. Gear the priorities assistance program for the oil and gas industries into the Controlled Materials Plan which became effective July 1.

NPA simultaneously issued a new companion order, M-46B, divorcing the petroleum and gas industries from control under Order M-4 (Construction), and giving them a separate order which will govern their construction of additional facilities to expand production for the defense effort.

The new order M-46B, however, retains the same basic principles of regulation over construction as originally embodied in M-4.

The order provides assistance for all types of production operations, which means any use of material for expansion, improvement, maintenance,

repair or replacement incident to production, with some exception.

It provides priorities assistance for construction operations, defined as expansion, improvement, reconstruction, remodeling, alteration, maintenance, repair or replacement incident to any branch of the petroleum and gas industries, other than production.

Domestic operators must make the necessary filings with the PAD, Washington 25, D.C.: Attention: Materials Division. Canadian operators will make the filings with the Petroleum Division, Dept. of Trade & Commerce, Toronto, Canada.

M-46 also permits an operator to use a preference rating (DO-97) to restore to a practicable working minimum his inventory of material where the inventory has been depleted through the use of MRO material, or material necessary to a production or construction operation, provided that no delivery of material which would result in surplus material may be accepted by the operator.

The Petroleum Administration for Defense will be responsible for the administration of both M-46 and M-46B.

STATE LEGISLATION

Enacted into law in California is an amendment to the existing vehicle code to require that on and after Oct. 1, 1951, all tank trucks, trailers, or semi-trailers, having an external shutoff valve, must also have an internal shutoff valve for each tank.

An LP-Gas weights and measures bill has been passed by both houses of the Connecticut legislature.

Nebraska now has on its books a law which prohibits the refilling of

LP-Gas containers by other than the owner, or someone with authority from the owner. Criminal penalties are provided for infractions.

Opinions differed as to the constitutionality of this bill when it was presented to the legislature and it took a ruling from Nebraska's attorney general to clear it. The attorney general ruled that "Primarily the act was presented as a safety measure . . . and gets its validity from the powers inherent in our government to enact laws to protect safety, health, and general welfare."

In the "General Appropriations Act" in South Carolina, which became effective July 1, there is a 3% sales and use tax provided.

All retailers are required to secure a retail license from the state tax commission for each establishment.

A revision of its LP-Gas regulations has been made by Kentucky. Copies are obtainable from the state fire marshal in Frankfort.

IP-Gas Companies Praised For European Help

The Economic Cooperation Administration observed the third anniversary of the Marshall Plan by citing several concerns for their contributions to the overall effort of helping to restore and stabilize Western European nations under the current program which is believed to be bringing recovery to Western Europe.

Receiving "certificates of cooperation" were two companies in the LP-Gas industry, H. Emerson Thomas & Associates, Inc., of Westfield, N.J., and North American Utility & Construction Corp., of New York City.

John Locke Cuts Cake For Company's 40th Anniversary

Office procedure stood at a standstill at Northwestern Blaugas Co., St. Paul, the afternoon of March 4, as the firm celebrated its 40th anniversary with a "birthday" party. Founded in 1911, Northwestern Blaugas Co. pioneered in the introduction of liquefied petroleum gas, and is the oldest distributor in the bottled gas industry.

Among those participating in the anniversary celebration were John L. Locke and John L. Locke, Jr., son and grandson of Frank Y. Locke, first president of the company, who for many years was on the executive board of the Compressed Gas Assn.

John L. Locke, who succeeded his father as president of Northwestern Blaugas Co. in 1934, was president of the National Butane-Propane Association in 1950.

Indiana Dealers Plan State Fair Booth

"Telling the LP-Gas Story" in Indiana calls for exhibition space covering approximately 2000 sq. ft. in the Manufacturers' building at the Indiana State Fair in August. The display will be sponsored by the members of the Indiana LP-Gas Assn.

Tentative plans call for displays of both bulk and bottled-type installa-



John L. Locke, president, Northwestern Blaugas Co., St. Paul, cuts "birthday" cake at firm's 40th anniversary celebration.

tions together with at least one model of every LP-Gas-consuming appliance which could be used in farm, rural, or suburban installations. Favorable responses have been received from associate members who were sent a preliminary questionnaire regarding their active participation in the event. Drawing prizes already pledged include a space heater with thermostatic control, stock tank heater, water heater, and domestic range.

Active members are now being contacted with a plan for participation in the fair which will involve their cooperation in manning the booth space in return for a share of the prospects who sign registration blanks for the prizes.

3rd Service School Held At U. of Minnesota

The third annual LP-Gas service school held on the St. Paul campus of the University of Minnesota in March was attended by 135 men from Minnesota, Wisconsin, Iowa, Illinois, and North and South Dakota, interested in learning and relearning the fundamentals of LP-Gas appliances and equipment.

The 3-day school was held in cooperation with the Liquefied Petroleum Gas Assn., the National Butane-Propane Assn., and the Minnesota Petroleum Gas Assn.

C. H. Christopherson, of the university, was chairman of the committee on arrangements for the school.

Lecturers included: Charles Goebrecht, Shell Oil Co., utilization equipment; T. H. Jones, Bryant Heater Div., water heaters; Harry Fligelman, Consumers Gas Co., sizing storage equipment; C. E. Wiser,

Minneapolis-Honeywell, heating controls; F. G. Constance, Tappan Stove Co., cooking equipment; Vince Miller, Servel, refrigeration; Hylton R. Brown, U. S. Bureau of Mines, safety.

LP-Gas Firms Provide Nine College Scholarships

The Southern Technical Institute received handsome returns on its booth investment at the May convention of the LPGA in Chicago. As a result of information made available concerning the school's gas fuel technology course, nine scholarship commitments were received.

Each of these provides for the costs of an 18-month course at the Chamblee, Ga., institution.

Donors were Automatic Gas Co. of Columbus, Ga.; Fisher Foundation, Marshalltown, Iowa; Carolina Butane Gas Co. Inc., Columbia, S.C.; The Bastian-Blessing Co., Chicago; Gas Equipment Supply Co., Atlanta (2); Skelly Oil Co., Kansas City, Mo.; Delta Tank Manufacturing Co., Baton Rouge; and the Parlett Gas Co., Waldorf, Md.

When students graduate from the gas fuel technology course they become "gas technicians," indicating that they have been instructed in the distribution, sales, servicing, and installation of gas and gas equipment, and also that they have been trained to serve in supervisory and managerial capacities.

The dearth of college-educated men in the LP-Gas industry gives Southern Technical Institute men unusual opportunity to capitalize upon their training.

Inquiries for detailed information may be addressed to L. V. Johnson, director of the institute, at Chamblee, Ga.

Liquefied Petroleum Gas

Cities Service Oil Co.

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A DEPENDABLE SOURCE
UNIFORM PRODUCTS
A CAPABLE SUPPLIER
TWENTY YEARS' EXPERIENCE

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Other Sales Offices

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Fire Training Manual Issued by NFPA

A civil defense edition of a training manual for fire fighters has just been released by the National Fire Protection Assn. This 176-page edition, "Handling Hose and Ladders," contains over 300 photographs and brings to the fire service in one volume a step-by-step pictorial description of accepted practices for handling fire hose and fire department ladders.

Those desiring copies at \$1.50 each may write to National Fire Protection Assn., Publications Service Dept., 60 Batterymarch St., Boston, Mass.

CALENDAR

July 8-11—Southern LP-Gas Service School.

Louisiana State University, Baton Rouge.

July 13—LPGA District 2. Western Merchandise Mart, San Francisco.

July 16-18 — Mid-West LP-Gas Service School, Iowa State College, Ames.

July 30-Aug. 1—Central States LP-Gas Service School, Purdue University, Lafayette, Ind.

Aug. 5-6—Tennessee LP-Gas Assn. Convention, Andrew Jackson Hotel, Nashville.

Aug. 13-15—LP-Gas Engine Fuel School, Purdue University, Lafayette, Ind.

Aug. 20-21—Kentucky LP-Gas Assn. Convention and Trade Show, Seelbach Hotel, Louisville.

Aug. 29-31—Western LP-Gas Service School, "U" of California, Berkeley.

Sept. 4-6—Pacific Coast Gas Assn. Fairmont Hotel, San Francisco.

Sept. 10-11—Virginia Liquefied Petroleum Gas Assn. Convention, Hotel Roanoke, Roanoke.

Sept. 10-12—Eastern LP-Gas Service School, University of Bridgeport, Bridgeport, Conn.

Sept. 22—National Butane-Propane Assn. District meeting, Bismarck Hotel, Chicago.

Oct. 1-3—Assn. of Nebraska LP-Gas Dealers, Annual convention, Hotel Paxton, Omaha.

Oct. 4-5—California Natural Gasoline Assn. Ambassador Hotel, Los Angeles.

Oct. 8-12—National Safety Congress, Chicago.

Tulsa Host to Central States

By Craig Espy

HARRY Canup, of Hales-Mullaly Co., Oklahoma City, told members of the Central States District of LPGA attending the 1951 annual convention and trade show held in Tulsa, June 4-5, that you had to be able to make people want things they didn't know they needed before you fulfilled the true requirements of a salesman. He urged members of the association to do a better selling job.

In a talk on "What Further Developments Can Be Expected in the LP-Gas Carburetion Industry," O. L. Garretson, of General Tank and Steel Corp., Roswell, N.M., pointed out that there will be improvements in appearance, in control of mixtures, in vaporization systems, in the method of grouping fittings together and in other ways. "These changes," he said, "will be gradual." He emphasized the point that equipment now on the market is highly reliable and satisfactory and that dealers should not delay in entering this important market.

In a progress report on the National



HARRY CANUP



ROBT. TANNER

LP-Gas Promotional program, Robert E. Borden, of the national committee of Chicago, stated that the program which is designed to stimulate sales of LP-Gas at the local level, to consolidate the big gains of the industry and to expand national markets, has been wonderfully effective. He said that there are now approximately 770 contributing members; 660 are LP-Gas marketers. The other hundred or so are producers, appliance and equipment manufacturers and miscellaneous. Jeff T. Boucher of the OPS, Tulsa, brought a report on price stabilization.

R. H. "Rudy" Mahnke, of LPGA, Chicago, presented information on the 10-year population and income growth of the country and said that dealers should make sure now that they are adequately prepared to serve the growing needs of their localities; that they have adequate bookkeeping systems, proper sales and office personnel, that they observe proper sales and advertising procedures; that they properly represent their industry and their community and that they belong to their trade association.

Speaking on the subject, "The Goodwill a Customer Service Employee Can Create," F. E. Kee, of the Oklahoma Natural Gas Co., Tulsa, advised



A. C. FERRELL



O. L. GARRETSON

the dealers to think of "giving" more than they do of "getting." He also said that the principle of the "Golden Rule" is the one to observe in running any business.

In a talk on "Problems in Modern Day Welding," Howard N. Simms, of Black, Sivalls & Bryson, Kansas City, presented a series of slides to show the place of welding in modern industry. The slides portrayed "behind the scenes" problems concerned with welding and also illustrated the technical advances made in welding LP-Gas tanks.

G. M. Kintz and H. F. Browne, of the U. S. Bureau of Mines, gave a "Magic of Fire" demonstration in which they reproduced in miniature actual accidents by fire and explosion caused by static electricity. Mr. Kintz showed that the way to avoid such fires is to make sure that "everything

is bonded together in the same potential."

In a special meeting of the Oklahoma group held during the convention this group voted to increase the number of districts in the state from five to 10. It was explained that this move would increase the number of directors from 10 to 20; also, that attendance at district meetings would be better since distance of travel to the meetings would not be so great. The group voted to have President Ed Sabin appoint new directors until election can be held in the fall.

Ed Sabin, president of the Oklahoma group, and A. C. Ferrell, president of the Kansas association, shared the honors in presiding over the conference. The official registration was 222. Robert C. Tanner district secretary of the Central States District, had charge of the meeting.

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**SUSPENDED
FAN TYPE**

**Styled for Beauty
Built for Duty**

**A.G.A. Approved
for all gases
including L.P.**

**65,000 to 200,000
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**Available in
5 Sizes**

**Easy to Sell
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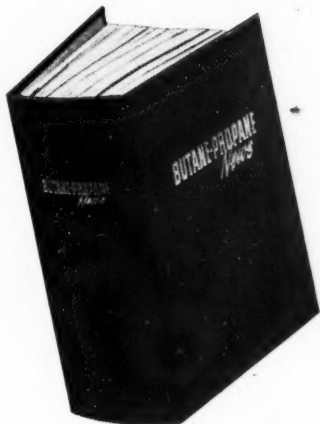


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blends perfectly with modern interiors of shops
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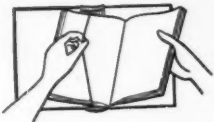


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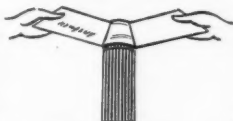
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The curved backbone and patented binding system allow each magazine and page to open flat.



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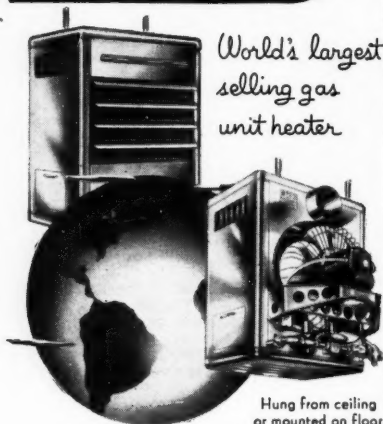
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Summertime is the most convenient season for you to install Reznor gas unit heaters. And, every heating man will tell you that he can install them now for less cost than in winter. Reznor units are actually "automatic" heating machines that meet commercial, industrial or residential requirements everywhere... installed singly or in multiples. Write today. There's a Reznor dealer near you.

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*This advertisement appears in
The Saturday Evening Post*

AGA Offers Award for Gas Househeating Contributions

Awards totaling \$1000 for outstanding contributions in the field of gas househeating during the period of Sept. 1, 1950, to Sept. 1, 1951, have been announced by the American Gas Assn. The contest is sponsored by the Coroaire Heater Corp., Cleveland, Ohio, in recognition of the activities of the gas utility industry in creating, maintaining and increasing consumer demand for gas heating.

The awards will consist of five cash prizes of \$500, \$250, \$150, respectively, for the first three winners and prizes of \$50 each for the fourth and fifth winners. The contributions on which the awards will be judged may include gas heating sales and promotional programs to consumers, dealers, architects or builders; a gas heating research project; product development; an address before a gas industry meeting or an article in a gas trade paper. The field is not limited to these activities and contributions can include any other activity outstanding in its aid to the advance of gas heating.

Entries must be in the mail or received at American Gas Assn. headquarters not later than midnight Sept. 1, 1951.

GAMA Appoints M. E. Miller To Promotion Committee

M. E. Miller, vice president of the National Steel Construction Co. of Indiana, has been appointed sales promotion committee chairman of the Gas Appliance Manufacturers Assn.'s water heater division, it is announced by Andrew F. Cassidy, division head.

Mr. Miller succeeds R. A. Bissell, of the Bryant Heater Division, Affiliated Gas Equipment, Inc., Cleveland.

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37"-38"-40½"-48" Inside Diameter

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76½"-126" Inside Diameter

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My connection with the LP-Gas Industry is _____

The Trade



WM. HAMILTON, Jr.



C. B. DUSHANE, Jr.

William G. Hamilton, Jr., has been elected president of the **American Meter Co.** John C. Diehl, who served as president since August, 1950, was elected chairman of the board. Mr. Hamilton has served the company as sales engineer, assistant manager and manager of the Philadelphia plant, and vice president in charge of sales.

C. Benson Dushane, Jr., has succeeded Mr. Hamilton as vice president in charge of sales. Formerly he was manager of the Midwest sales division.

W. B. Ashby has been elected secretary of the company. He joined the company's engineering staff in 1940. In 1948 he was made assistant to the vice president in charge of sales.

J. H. Zeigler, vice president and a director of **The Wilcolator Co.**, died on April 30 while on a business trip in Nashville, Tenn. He was 53 years old.

Mr. Zeigler had been associated with **The Wilcolator Co.** since its organization over 25 years ago. He was widely known and esteemed throughout the stove industry in the United States and Canada. He was born in Manistee, Mich. and was a veteran of World War I.

Nelson L. Miller, director of research engineering of the **Detroit-Michigan Stove Co.**, died May 16 at the age of 45. Widely known in gas circles, Mr. Miller was member of the AGA research testing laboratories for eight years before joining **Detroit-Michigan** in 1934.

At the time of his death, he was chairman of the AGA sub-committee to establish approval requirements for commercial cooking equipment.

At the annual meeting of stockholders and directors of **Florence Stove Co.**, Gardner, Mass., Paul R. Auvil, of Chicago, was elected to the board replacing Lester J. Neuman. At the same meeting, all other directors and officers of the firm were reelected. Robert L. Fowler is chairman of the board and Robert H. Taylor is president of the company.

James J. Manning has been appointed to the newly created position of manager of sales, range division, according to C. Fred Lucas, **Florence** vice president in charge of sales. Mr. Manning will have complete responsibility for nation-wide sales of com-

bination, gas, electric, and oil ranges and will headquarter at the Gardner office.

Succeeding Mr. Manning as New England division manager is Thomas P. Nugent, who formerly served the company as New England division promotion manager.

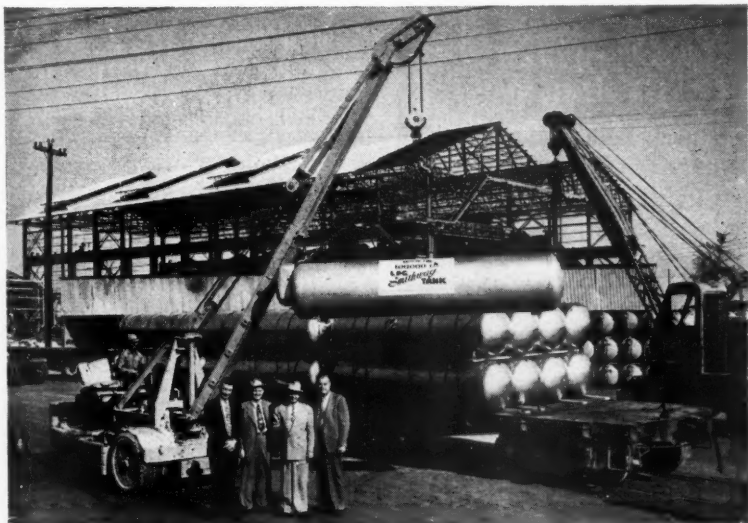
H. R. Singleton has been appointed to the position of manager, Midwest division, with headquarters in Chicago. He will direct sales efforts of 11 Florence representatives in an area covering 13 Midwest states.

Several new executive assignments have been announced by J. M. Floyd, executive vice president of the A. O. Smith Corp.

C. R. Rigby, formerly group executive at the Milwaukee headquarters, was named group executive in charge of the company plant at Houston, where LP-Gas systems are manufactured.

F. B. Dunn, former manager of the Houston works, was placed in charge of personnel for Houston and the company's entire Southwest district administrative area covering eight southwestern states.

F. S. Cornell, manager of A. O. Smith's Kankakee (Ill.) plant, was appointed group executive for Kankakee, the Eastern Motor Div. at Tipp City, Ohio, and the company's heating division in Toledo. Mr. Cornell will make his headquarters in Kankakee



Shown standing in front of the 100,000th LP-Gas system manufactured at the A. O. Smith Houston factory are (left to right): C. R. Rigby, group executive; L. F. Megow, vessel division manager; F. P. Zerbe, chief engineer; and E. A. Wartgow, LPG division manager of the Houston works.



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and will continue for the present to be manager of the Kankakee works.

C. T. Hendrix has joined the company as LP-Gas carburetion sales specialist. He will work with dealers and distributors on conversion sales, conduct schools for dealer-salesmen, and supervise the installation of A. O. Smith-marketed carburetors on large fleet accounts.

J. F. Donnelly has been named assistant manager of the water heater division of the company.

Facilities of the product service division of the company have been expanded to include four fully equipped laboratories in addition to a classroom. The labs serve in the field of domestic water heating, volume water heating, and electric motor service.

Several sales force personnel changes have been announced by A. J. Kerr, vice president of sales, Meter & Valve Div., Rockwell Manufacturing Co.

E. E. Matheson will go to Rockwell's Nordstrom Valve Plant in Oakland, Calif., where he will assist the factory management by serving as liaison between production, engineering, and sales. He has served as general sales manager since 1945.

H. Gottwald will become general sales manager for Nordstrom. Previously he was assistant sales manager and assistant vice president of the company's Meter & Valve Div.

R. R. Bush has been named oil field products sales manager. Before his



H. GOTTWALD

new appointment he had served as special representative for Nordstrom valves.

New sales manager of warehouse and jobber sales is O. W. Barnett. His past positions with the company include gas products sales supervisor and assistant sales manager for the Nordstrom division.

F. C. Arens, Boston district manager, has announced the appointment of J. M. Tillman as sales engineer. His duties will include the sale of gas products and Nordstrom valves in Rhode Island and Connecticut.

Other new Rockwell personnel changes include: R. V. Burnette, new service manager for the meter and valve division, in which position he will establish repair procedures in factories and district warehouses.

C. K. Hubbard, as a newly elected vice president, will head up the national accounts division, whose activities are directed by the sales department.

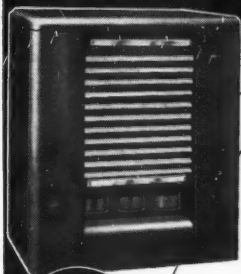
Norman W. Rowand has been named general manager of the Pittsburgh plant of the company's meter and valve division, according to L. A. Dixon, vice president.

The Crane Packing Co., Chicago, has announced the transfer of Charles K. Moerk to its San Francisco office as sales engineer to handle the company's line of packing, mechanical seals, and lapping machines.

Mr. Moerk joined Crane in 1937 and has been working out of the Chicago office.

Appointment of John M. Bayer as regulations and priorities manager of American Stove Co., St. Louis, was announced recently by George P. Eichelsbach, Jr., vice president in charge of manufacturing. At the same

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time Marc W. Pender, vice president in charge of sales, announced that Ambrose R. Pierce will replace Mr. Bayer as manager of the company's Lorain sales department.

Mr. Bayer has been transferred temporarily from the sales department to the production department as an advisor to the production planning staff, and as an interpreter of government orders and regulations relating to production, a position similar to the one he held during World War II.

In order to do all manufacturing in one plant, the J. L. Gillen Co., manufacturers of oil and gas-fired furnaces and water heaters, has moved to a larger plant in Detroit located at 12202 Wormer. The company was located formerly in DOWAGIAC, Mich.



L. J. WILMETH, Jr.

Beacon Petroleum Co., of Tulsa, has appointed Leo J. Wilmeth, Jr., as manager of supply and distribution.

Mr. Wilmeth, who has had extensive experience in the LP-Gas industry, will supervise the movement of petroleum products

handled by the company which maintains offices in Chicago, Houston, and Tulsa.

In its effort to assist in the promotion of safety on the farm, **Minneapolis-Moline Co.** has sent to its dealers for distribution to their customers the 1952 farm safety calendar issued by the National Safety Council.

The calendar, packed with pertinent and useful information, colorful illustrations, and safety verses, will serve as a constant reminder to farmers to be careful.

Gordon R. Kemp has been appointed assistant general manager of the **Estate Stove Co.**, Hamilton, Ohio, according to an announcement from Cecil M. Dunn, vice president and general manager.

Mr. Kemp will continue to fulfill his former functions as controller and credit manager.

General Sales Manager Gordon P. Hentz has announced the appointment of Will Hemsworth as division manager in the Chicago area.

Ned Weinman has been named market research manager of Estate. He has been associated with the

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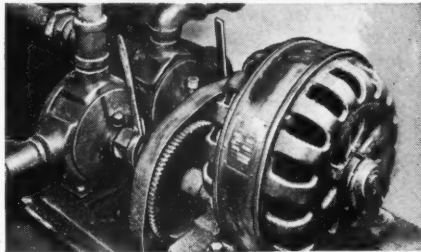


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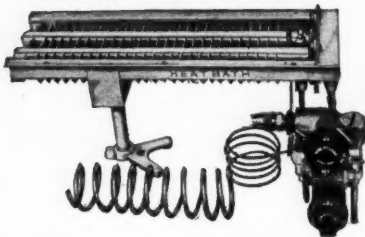
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company since 1933 and has recently served as special accounts supervisor and sales and market analyst.



"TEX" JOHNSON

R. G. Thompson, LP-Gas Products sales manager of Black, Sivalls and Bryson, Inc., Climax Controls Division, of Tulsa, has announced the appointment of "Tex" Johnson as salesman in the LPG division of the company. Mr. Johnson

comes to Black, Sivalls & Bryson from the National L-P Gas Institute where he has been an instructor for the past year. Prior to this he was associated with the Skelgas Division of Skelly Oil Co., Tulsa. Also he was for a time connected with an LP-Gas company operating in the East.

In his new post Mr. Johnson will handle control equipment and the carburetor conversion unit manufactured by BS&B in the United States, Canada and Mexico.

Grant Overcash has been named sales representative for the Dallas, Houston, and San Antonio, Texas, areas for Temco, Inc., Nashville, Tenn., it is announced by Frank Drake, sales manager. Mr. Overcash will supervise the distribution of the company's gas heaters, floor furnaces, wall heaters, and clothes dryers from his Dallas headquarters.

Announcement has been made recently of the appointment of Gas Equipment Co., Inc., Dallas, and Gas Equipment Supply Co., Atlanta, as



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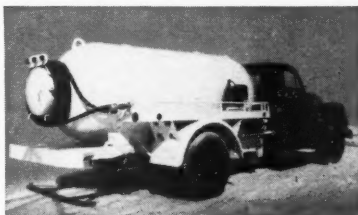
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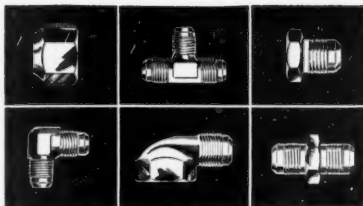
Sheldon Coleman, for the last 11 years executive vice president and general manager of the Coleman Co., Wichita, Kan., manufacturer of home heating equipment and cooking and lighting appliances, has been elected president of the company.

He succeeds his father, W. C. Coleman, who founded the firm in 1900 and had served continuously as its president. W. C. Coleman, who passed his 81st birthday in May, continues as chairman of the board.

A new sales representative for the western Pennsylvania territory of the John Wood Co., heater and tank division, has been announced by W. T. Briggs, eastern sales manager. He is Karl E. Dillinger who replaces Joe Wallace.

Mr. Wallace has been transferred to the Chicago office as assistant sales manager of the Midwestern district.

The factory of the Bastian-Blessing Co. will close for vacation July 2-13, according to Ellsworth L. Mills, vice president. A skeleton organization in



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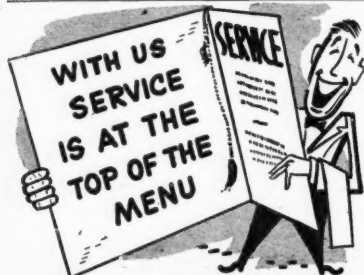
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the factory will be on hand to take care of small emergency orders, but it will not be in a position to ship orders during the period. The majority of the office staff, however, will be on duty.



F. N. ROBSON

Superior Valve & Fittings Co., Pittsburgh, Pa., has announced the appointment of F. N. Robson as manager of its eastern district office in New York, according to George R. Allen, vice president. He formerly served as assistant eastern

district office manager and assistant sales manager.

T. E. Cunningham will succeed Mr. Robson as assistant sales manager.

Neptune Meter Co. recently elected John H. Ballantine chairman and Dante E. Broggi president. Mr. Ballantine has served as president for 17 years.

Mr. Broggi joined Neptune in 1920 and for the past four years has served as vice president and general manager.

The appointment of B. L. Childers as sales manager of carburetion sales for the **General Gas Corp.,** Baton Rouge, La., has been announced by R. D. Phillips, company president.

During the past six years, Mr. Childers has been associated with Phillips Petroleum Co., and was active in the sales and service departments and the LP-Gas conversion and equipment field.